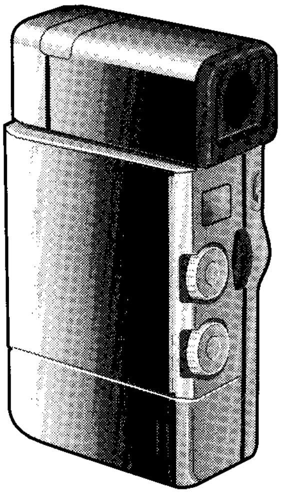
JVC

SERVICE MANUAL

DIGITAL VIDEO CAMERA

GR-DV1EG



Mini DV PAL

SPECIFICATIONS

MAIN UNIT

General

Power	: DC 6 V ⎓ (using AC Adapter), DC 3.6 V ⎓ (using Battery)
Power consumption	: 6.2 W
Format	: DV Format (SD mode)
Signal format	: PAL Standard
Video signal recording format	: Digital Component Recording
Data compression rate	: 25 Mbps
Digital compression technology	: DCT (Discrete Cosine Transform) & VLC (Variable Length Coding)
Cassette	: MINI DV Cassette
Tape Speed	: 18.8 mm/sec.
Maximum recording time	: 60 min. (using DVM-60 cassette)
Continuous recoring time	: Approx. 30 min. (using fully charged BN-V712U Battery Pack)
Fast-Forward/Rewind Time	: Approx. 90 sec. (using DVM-60 cassette)
Pickup	: 1/3" CCD
Zoom	: 10x Optical Zoom 20x/100x Digital Zoom
Lens diameter	: F1.6, f = 4.5∿45 mm
(Filter Diameter)	ø27
Viewfinder	: Electronic 0.55" color LCD
White balance	: AUTO/MAN.
Iris	: AUTO/LOCK
Microphone	: Condensor type/stereo
Operating temperature	: 0 — 40°C
Operating humidity	: 35 — 80%
Storage temperature	: -20 — 50°C
Dimensions	: 43 (W) x 148 (H) x 88 (D) mm
Weight	: Main unit approx. 450 g
During recording	Approx. 520 g (With BN-V712U Battery Pack, Cassette M-DVM30ME, Hand Strap)

Audio

Sampling frequencies	: 48 kHz, 44.1 kHz (playback), 32 kHz
Channels	: 2 (48 kHz) 4 (32 kHz)
Quantum Bits	: 16 linear (48 kHz) 12 non-linear (32 kHz)

Connectors

Microphone input connector	: ø3.5 mm –62 dB stereo
A/V output connector	: ø3.5 mm 4 quadripolar (analog output)
DC input connector	: 6 V
Multi connector	: 34 pin

Battery Pack BN-V712U

Power	: DC 3.6 V ⎓ /1.250mAh
Dimensions	: 20 mm (W) x 20 mm (H) x 71 mm (D)
Weight	: Approx. 50 g

Remote Control Unit RM-V708U

Power	: DC 3 V ⎓ (Lithium Battery CR2025)
Battery Life	: Approx. 1 year (depending on usage)
Effective distance	: Approx. 5 m (front shaft)
Operating temperature	: 0°C — 40°C
Storage temperature	: –20°C — 50°C
Dimensions	: 54 mm (W) x 86 mm (H) x 12 mm (D)
Weight	: Approx. 26 g (with battery installed)

AC Adapter/Charger AA-V70EG

Power	: AC 110 – 240 V∿, 50/60 Hz
Power consumption	: 15 W
Output power	: DC 3.6 V ⎓ , 1.3 A (charge) : DC 6.0 V ⎓ , 1.1 A (VTR)
Operating temperature	: 0°C — 40°C (when charging, 10°C — 35°C)
Dimensions	: 112 mm (W) x 44 mm (H) x 63 mm (D)
Weight	: Approx. 185 g

Docking Station

Operating temperature	: 0°C — 40°C (when charging, 10°C — 35°C)
Editing connector	: ø3.5 mm
S-Video connectors	
Y	: 1 Vp-p, 75 Ω
C	: 0.286 Vp-p, 75 Ω
Video output connector	: 1 Vp-p, 75 Ω (Pin jack)
Audio output connector	: –8dBs, 1 k Ω (Pin jack)
JLIP connector	: ø3.5 mm
Multi connector	: 34-pin
Dimensions	: 112 mm (W) x 48 mm (H) x 203 mm (D)
Weight	: Approx. 345 g

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (░) parts are critical for safety.
Replace only with specified part numbers.
Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

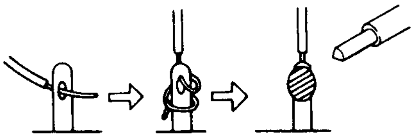


Fig. 1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

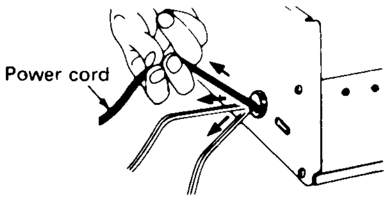


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
   1) **Connector part number** : E03830-001
   2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
   3) **Replacement procedure**
      (1) Remove the old connector by cutting the wires at a point close to the connector.
      Important : Do not reuse a connector (discard it).

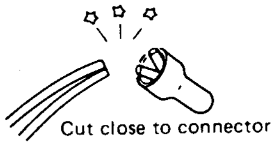


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

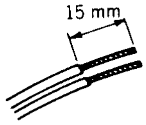


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

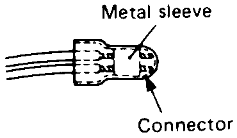


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

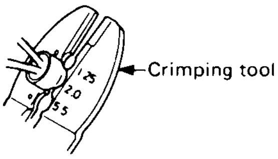


Fig. 6

(5) Check the four points noted in Fig. 7.

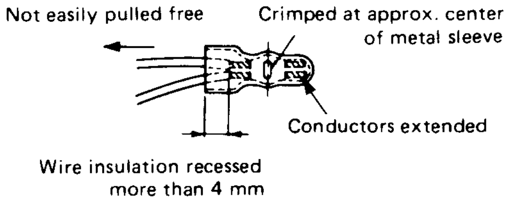

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

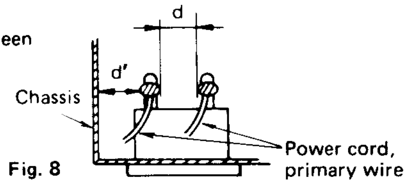


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method: (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

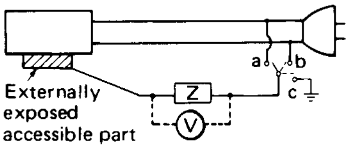


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

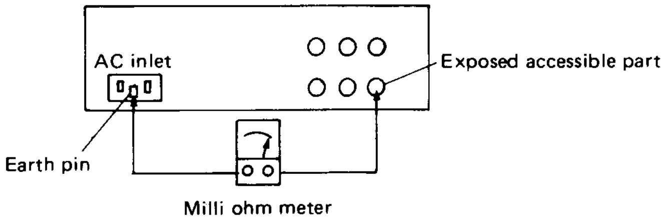


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

Dear Customer,
Thank you for purchasing this Digital Video Camera. Before use, please read the safety information and precautions contained in the following pages to ensure safe use of your new camcorder.

Using This Instruction Manual

- All major sections and subsections are listed in the Table Of Contents (☞ pg. 5).
- Notes appear after most subsections. Be sure to read these as well.
- Basic and advanced features/operation are separated for easier reference.

It is recommended that you . . .

..... refer to the Index (☞ pgs. 59 – 61) and familiarize yourself with button locations, etc. before use.

..... read thoroughly the Safety Precautions that follow and cautions (☞ pgs. 62, 63). They contain extremely important information regarding the safe use of your new camcorder.

SAFETY PRECAUTIONS

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTIONS:

- To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.
- When you are not using the AC Power Adapter/Battery charger for a long period of time, it is recommended that you disconnect the power cord from AC outlet.

Warning on lithium cell battery
The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate.
Replace battery with Panasonic (Matsushita Electric), Sanyo or Maxell CR2025; use of another battery may present a risk of fire or explosion.

- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.

CAUTION (applies to the Docking Station):
TO REDUCE THE RISK OF FIRE, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This camcorder is designed to be used with PAL-type colour television signals. It cannot be used for playback with a television of a different standard. However, live recording is possible anywhere. Use the BN-V712U battery pack and, to recharge it, the provided multi-voltage AC Power Adapter/Charger.
(An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

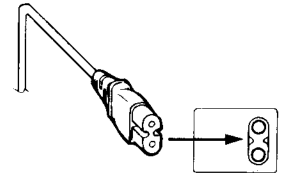
NOTES:

- *The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.*
- *The rating plate (serial number plate) of the AC Power Adapter/Charger is on its bottom.*
- *The rating plate (serial number plate) of the Docking Station is on its bottom.*

This unit is produced to comply with Standard IEC Publ. 65.

SAFETY PRECAUTIONS

CAUTION:



To avoid electric shock or damage to the unit, first firmly insert the small end of the power cord into the AC Power Adapter/Charger until it is no longer wobbly, and then plug the larger end of the power cord into an AC outlet.

Do not point the lens or the viewfinder directly into the sun. This can cause eye injuries, as well as lead to the malfunctioning of internal circuitry. There is also a risk of fire or electric shock.

CAUTION! The following notes concern possible physical damage to the camcorder and to the user.

When carrying, be sure to always attach and use the provided hand strap. Hold the camcorder firmly in your hand, with the strap securely around your wrist. Carrying or holding the camcorder by the viewfinder can result in dropping the unit, or in a malfunction.

Take care not to get your finger caught in the cassette cover. Do not let children operate the camcorder, as they are particularly susceptible to this type of injury.

Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the camcorder.

CAUTION! Attaching the camcorder to the Docking Station, connecting cables (AUDIO/VIDEO, S-VIDEO, Editing, DC) and leaving the unit on top of the TV is not recommended, as tripping on the cables will cause the camcorder to fall, resulting in damage.

About Batteries

DANGER! Do not attempt to take the batteries apart, or expose them to flame or excessive heat, as there is a risk of fire or explosion.

WARNING! Do not allow the battery terminals, or the battery itself, to come in contact with metals, as this can result in a short circuit and possibly start a fire.

- When transporting, make sure the provided battery cap is attached to the battery. If you misplace the battery cap, carry the battery in a plastic bag.

Before recording an important scene . . .

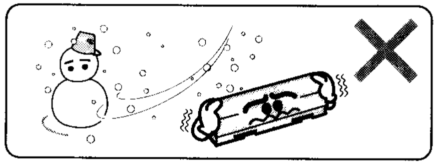
..... make sure you only use cassettes with the Mini DV mark.

..... remember that the GR-DV1 is not compatible with other digital video formats.

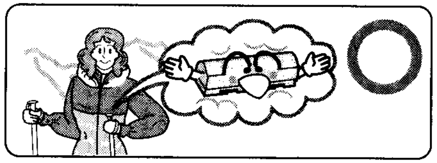
..... remember that the GR-DV1 is intended for private consumer use only. Any commercial use without proper permission is prohibited. (Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.)

The Benefits Of Lithium-Ion Batteries

Lithium-ion batteries are small yet have a large power capacity. However, if exposed to extreme cold (below 10°C), the effective operational time decreases significantly. Exposure to temperatures below 0°C will render the battery inoperative. If you are planning to shoot in an environment at these temperatures, carry the battery in a pocket to keep it warm, then attach it just prior to recording. The optional battery case CU-V777U is also recommended. It holds two batteries, and keeps them sufficiently warm even at an outside temperature of 0°C.



Lithium-ion is vulnerable in colder temperatures.



Keep the battery in a pocket when not in use, or use the optional CU-V777U power grip.

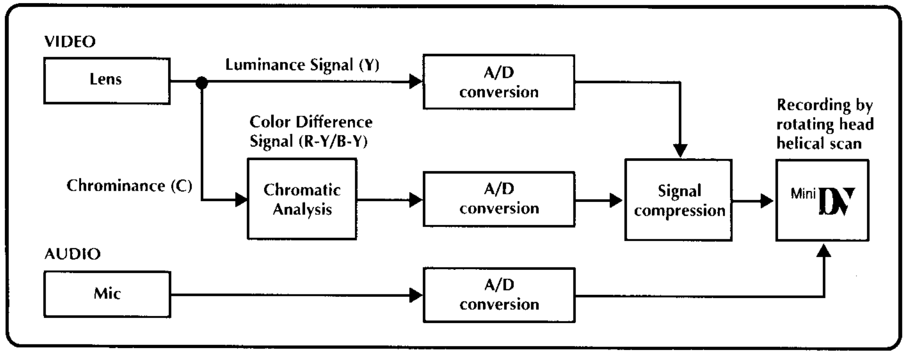
ABOUT DVC

The digital video camera converts incoming audio and video signals into digital form for recording.

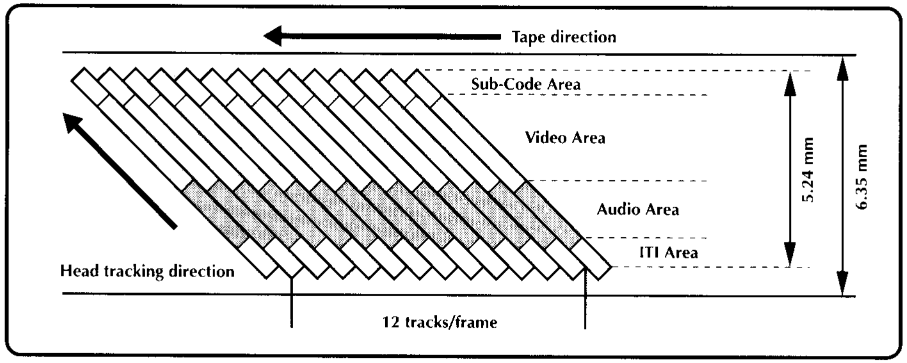
A video signal is composed of a luminance signal (Y) and color signals (R-Y and B-Y). These signals are identified and recorded digitally (Digital Component Recording). The A/D (Analog to Digital) converter samples the Y signal at 13.5 MHz, and R-Y and B-Y at 6.75 MHz, and changes them to an 8-bit quantum signal.

Sound sampled at 48 kHz is changed to a 16-bit quantum signal, and sound sampled at 32 kHz is converted to a 12-bit signal.

NOTE:
The data recorded on a tape is digital, but the output of the GR-DV1 is analog.


VIDEO
Lens
Luminance Signal (Y)
A/D conversion
Color Difference Signal (R-Y/B-Y)
Chrominance (C)
Chromatic Analysis
A/D conversion
Signal compression
Recording by rotating head helical scan
Mini DV
AUDIO
Mic
A/D conversion

The GR-DV1 separates the data into blocks, writing one block of each data type on each track of the tape.


Tape direction
Sub-Code Area
Video Area
Audio Area
ITI Area
5.24 mm
6.35 mm
Head tracking direction
12 tracks/frame

① Sub-Code Area
The Time Code and Date/Time data are written here, separate from the video data. This enables you to display the date and time during playback, even if they weren't displayed while recording.

② Video Area
The digital video signal is recorded here.

③ Audio Area
The digital audio signal is recorded here.

④ ITI (Insert and Tracking Information) Area
Insert editing and post-recording editing tracking signals are recorded here.

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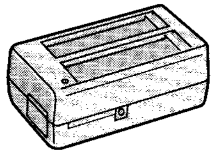
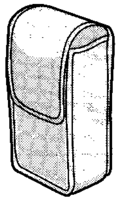
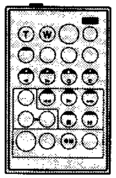
AC Power Adapter/Charger AA-V70EG



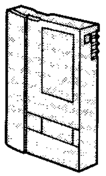
Soft camera case



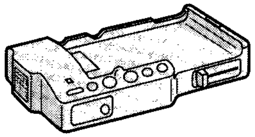
Remote control unit RM-V708U



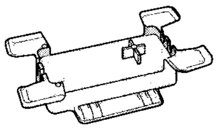
MiniDV Cassette Tape 30 min M-DV30ME



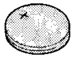
Docking Station



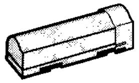
CAM Stand



Lithium battery x 2 CR2025 (one for clock operation and one for remote control unit)

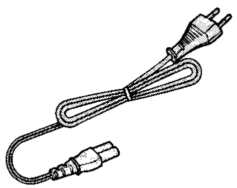


Battery pack BN-V712U

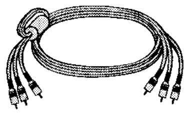


Hand strap

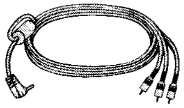
Power cord



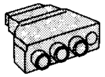
AUDIO and VIDEO cable (Phono Docking Station TV or VCR)



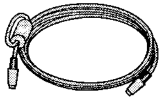
AUDIO and VIDEO cable (ø3.5 DV TV or VCR)



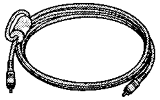
Cable adapter



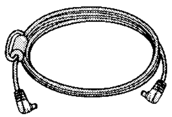
S-VIDEO cable

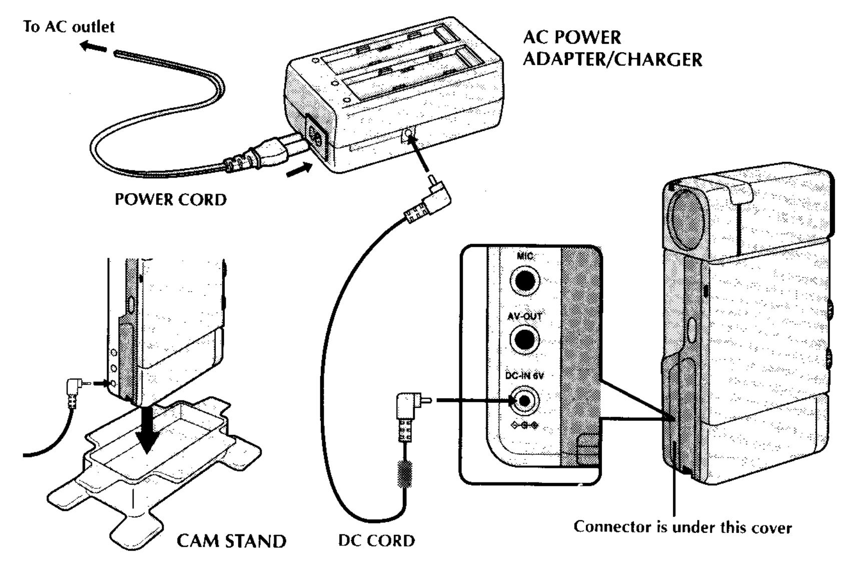


Editing cable



DC cord





Indoor Use

When using the camcorder indoors, you can use the AC Adapter instead of a battery.

1 SUPPLY POWER TO ADAPTER
Connect the power cord between the AC Adapter and an AC outlet.

2 SUPPLY POWER TO CAMCORDER
Connect the AC Adapter to the camcorder.

Using The CAM Stand

During Recording

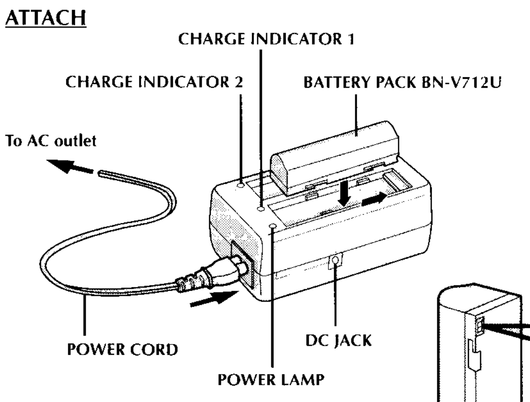
If you record while leaving the camcorder on a desk or table, it may tip or be accidentally knocked over. Attach it to the CAM Stand before this type of use.

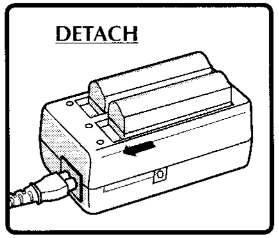
1 SUPPLY POWER
Plug the DC Power Cord into the camcorder.

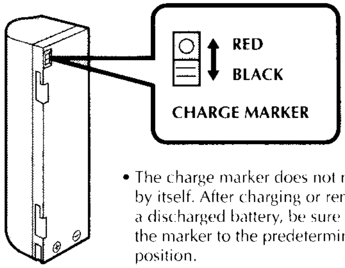
2 ATTACH TO CAM STAND
Attach as shown in the illustration, paying particular attention to the DC Power Cord.

Charging The Battery

You can charge one battery pack at a time, or two consecutively.







- The charge marker does not move by itself. After charging or removing a discharged battery, be sure to set the marker to the predetermined position.

1 SUPPLY POWER TO CHARGER

Connect the power cord between the AC Power Adapter/Charger and an AC outlet. The power indicator comes on.

2 ATTACH BATTERY/BATTERIES

Remove the battery pack's protective cap and make sure the + – marks are facing down and aligned with the corresponding marks on the AC Power Adapter/Charger.

- The Charge Indicator begins blinking to indicate charging has started.
- To charge two batteries consecutively, attach one right after the other. If you attach a second battery while the first one is being charged, the time required for charging will increase.

3 CONFIRM STATUS

When the charge indicator stops blinking but stays on, charging is finished. (If two batteries are attached, this means that they've both been charged.)

CHARGING TIME

BATTERY	ONE	TWO
BN-V712U	approx. 140 min.	approx. 210 min.

4 DETACH BATTERY/BATTERIES

Slide the battery or batteries in the direction of the arrow and lift off.

- Remember to unplug the power cord from the AC Power Adapter/Charger.

Charge Marker

The charge marker makes it easy for you to differentiate between charged and discharged batteries. Choose RED or BLACK to mean charged or discharged, and you'll always know the status of your batteries.

NOTES:

- *If you connect the camcorder's DC cord to the adapter during battery charging, power is supplied to the camcorder and charging stops.*
- *When using the AC Power Adapter/Charger, be sure to use the supplied power cord only.*
- *The AC Power Adapter/Charger is for use with the BN-V712U Battery Pack only.*
- *When charging the Battery Pack for the first time or after a long storage period, the Charge Indicator may not light. In this case, remove the Battery Pack from the AC Power Adapter/Charger, then try charging again.*
- *Since the AC Power Adapter/Charger processes electricity internally, it becomes warm during use. Be sure to use it only in well-ventilated areas.*
- *Be sure to securely connect the power cord to the AC Power Adapter/Charger.*
- *Before connecting to an AC outlet, connect the power cord to the AC Power Adapter/Charger. If you plug into an AC outlet first and the power cord's terminal comes in contact with a metal surface or object, there is the possibility of a short circuit or fire.*

**** Charging Environment**

Perform charging where the temperature is between 10° and 30°C. (20°–25°C is the ideal temperature range for charging.) If the environment is too cold, charging may be incomplete.

Continuous Shooting

Continuous shooting is possible for approximately 30 minutes, under the following conditions:

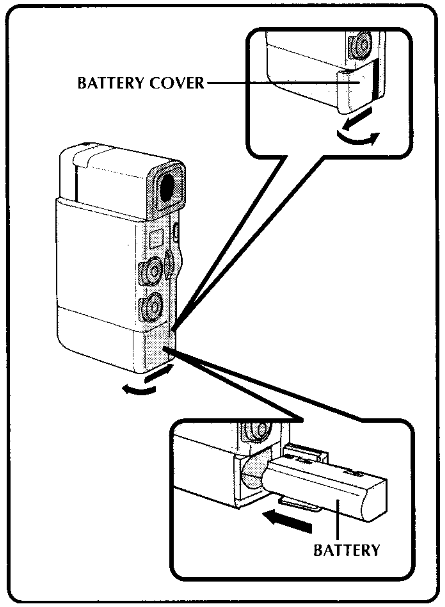
- A BN-V712U Battery Pack is in use
- The temperature is approximately 20°C/68°F

However, . . .

- If the temperature is below 10°C/50°F, or
- If Zoom or RECORD/STANDBY are engaged repeatedly, continuous shooting capability is reduced significantly. Before extended use, it is recommended that you prepare enough battery packs to cover 3 times the planned shooting time.

Installing The Battery Pack

The battery pack does not charge while in the camcorder. Before installation, make sure the battery pack has been charged fully.



1 OPEN BATTERY COVER

Move the cover in the direction of the arrow.

2 INSERT BATTERY

Remove its protective cap and insert the + – end of the battery first.

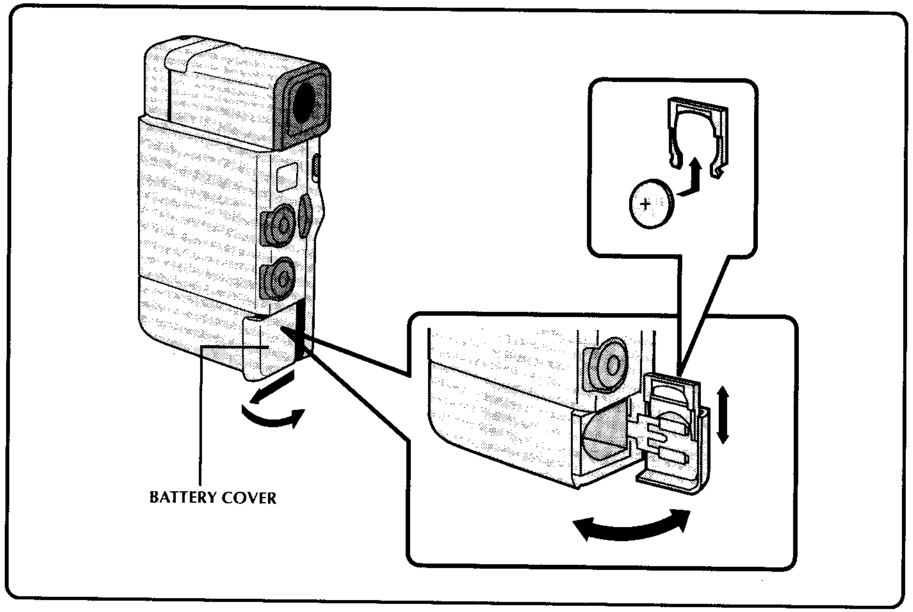
3 CLOSE BATTERY COVER

NOTE:

To remove a discharged battery pack, simply open the cover and slide the battery pack out.

Clock (Lithium) Battery CR2025 Insertion/Removal

This battery is necessary to operate the clock and to perform date/time settings.


BATTERY COVER

1 OPEN BATTERY COVER

Slide off as shown in the illustration.

2 REMOVE OLD BATTERY

Pull the battery holder out as shown, and slide the battery down and out of the holder.

3 INSERT NEW BATTERY

Insert the battery, with the "+" side showing, in the holder. Then insert the battery holder in the battery cover.

4 CLOSE BATTERY COVER

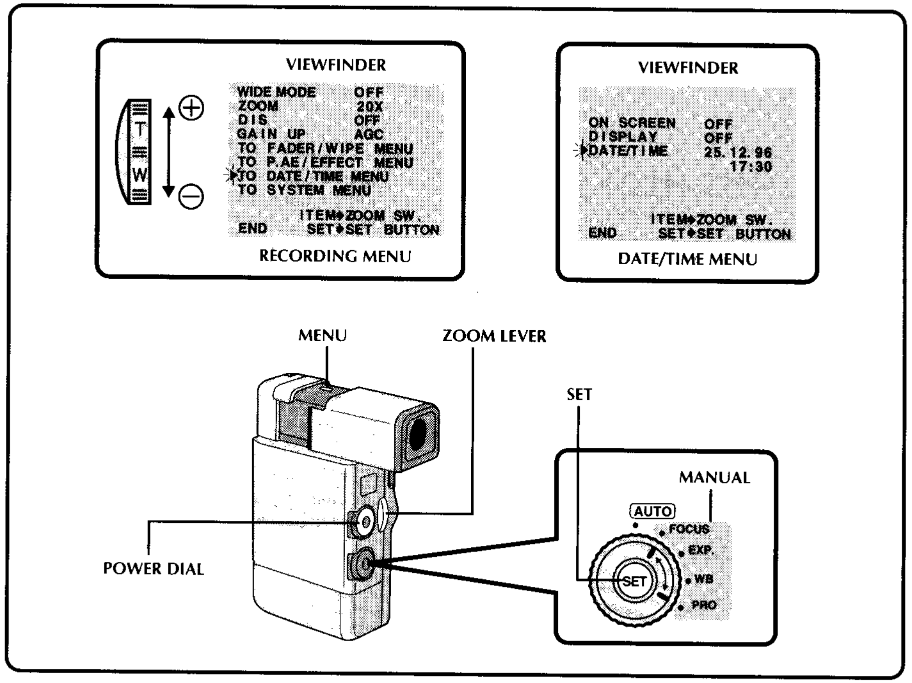
NOTES:

- *When the battery is depleted, the "⌂" indicator appears in the viewfinder after you turn the power on.*
- *See "SAFETY PRECAUTIONS" on page 2 for information on safe handling of lithium batteries.*
- *After changing the lithium battery, reset the date and time (☞ pg. 11).*

Date/Time Settings

If you set the date and time beforehand, the data will automatically be recorded separately from the video signal.

Even if the date and time do not appear during recording, you can display them on the screen or remove them from the screen at any time during playback.


VIEWFINDER
T
W
+
−
WIDE MODE OFF
ZOOM 20X
DIS OFF
GAIN UP AGC
TO FADER/WIPE MENU
TO P.AE/EFFECT MENU
TO DATE/TIME MENU
TO SYSTEM MENU
ITEM◆ZOOM SW.
END SET◆SET BUTTON
RECORDING MENU
VIEWFINDER
ON SCREEN OFF
DISPLAY OFF
DATE/TIME 25.12.96 17:30
ITEM◆ZOOM SW.
END SET◆SET BUTTON
DATE/TIME MENU
MENU
ZOOM LEVER
SET
POWER DIAL
MANUAL
AUTO
FOCUS
EXP.
WB
PRO
SET

1 SELECT OPERATION MODE

Set the Power Dial to "REC" and the Select Dial to "MANUAL".

2 ACCESS RECORDING MENU

Press **MENU**. The Recording Menu appears in the viewfinder.

3 ACCESS DATE/TIME MENU

Place the pointer next to "TO DATE/TIME MENU" by sliding the Zoom Lever. Slide toward "+" to move up and toward "–" to move down. Press **SET** and the Date/Time Menu appears in the viewfinder.

4 INPUT DATE AND TIME

Place the pointer next to "DATE/TIME" by sliding the Zoom Lever. Press **SET** and "Day" begins blinking.

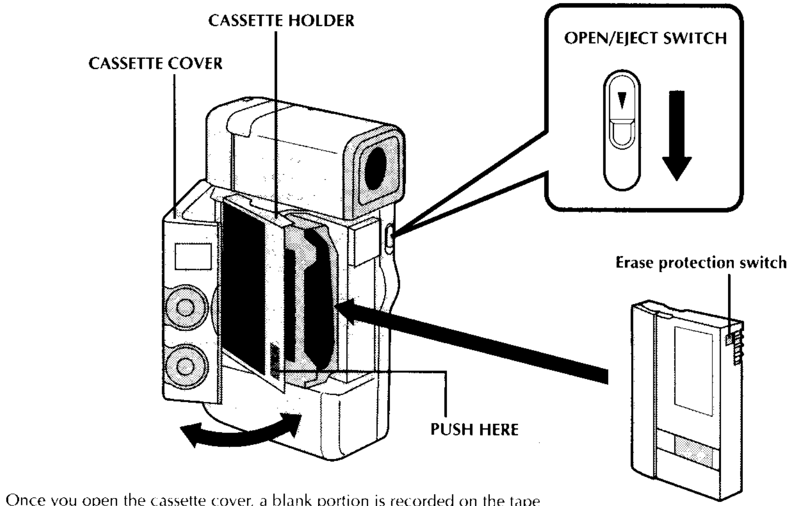
Using the Zoom Lever (slide toward "+" to increase and toward "–" to decrease), input the day. Press **SET**. Repeat the procedure to input the month, year, hour and minute. Press **SET** when the pointer is next to "END" to exit.

NOTE:

If you don't exit the Date/Time Menu, the clock display will not move but the camcorder's internal clock continues to operate. Once you close the menu, the date and time in the viewfinder begin operation from the current date and time, with no delay or loss.

Loading/Unloading A Cassette

If you have already installed a fully charged battery, you can open the door without external power.



Once you open the cassette cover, a blank portion is recorded on the tape even if you close it before the cassette holder comes out. See page 26 for information about recording from the middle of a tape.

Make sure the window side is facing out.

1 OPEN CASSETTE DOOR

Turn on the power, then slide the OPEN/EJECT switch in the direction of the arrow. The cassette cover releases. Open the cover in the direction of the arrow until it locks. The holder opens automatically.

- Do not touch internal components.

2 INSERT/REMOVE TAPE

Insert or remove a tape and press "PUSH HERE" to close the cassette holder.

- Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette cover.
- When the battery's charge is low, you may not be able to close the cover. Do not apply force. Replace the battery with a fully charged one before continuing.

TAPE	RECORDING TIME
DVM 30	Approx. 30 min.
DVM 60	Approx. 60 min.

NOTES:

- *It takes a few seconds for the cassette holder to open. Do not apply force.*
- *If you wait a few seconds and the cassette holder doesn't open, close the cassette cover and try again.*
- *Be careful not to get your fingers caught in the holder when it's closing. If this happens, the holder will open automatically after a few seconds.*
- *When the camcorder is suddenly moved from a cold place to a warm environment, wait a short time before opening the cover.*

**** To protect valuable recordings . . .**

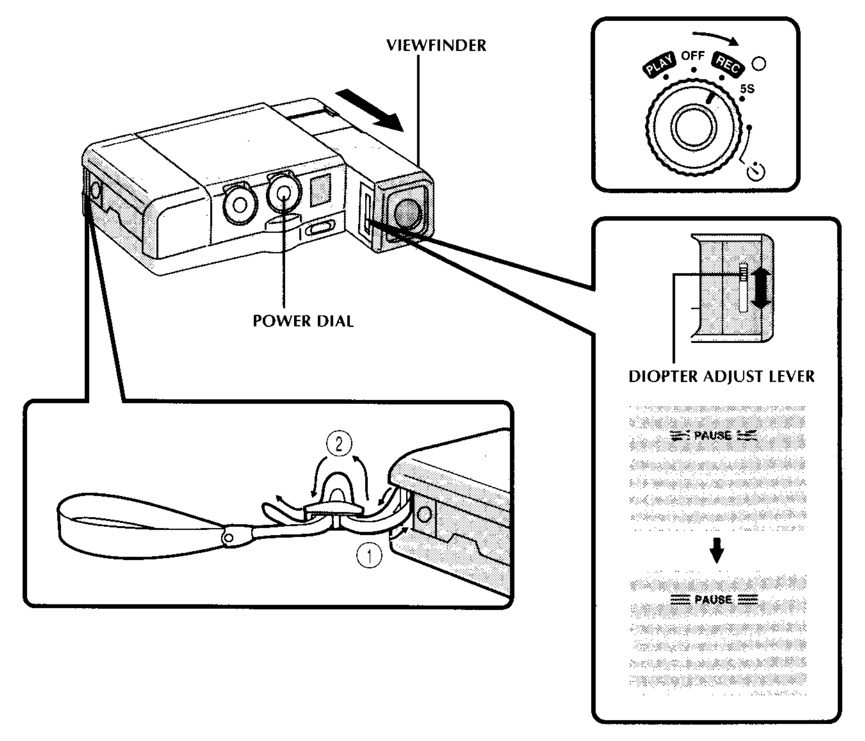
..... slide the erase protection switch on the back of the tape in the direction of "SAVE". This prevents this tape from being recorded over. If you decide later that you do want to record on this tape, slide the switch back to "REC" before loading the tape.

Hand Strap Attachment

The provided Hand Strap helps you to keep a firm hold on the camcorder. Make sure you never hold the camcorder without using the Hand Strap.

Diopter Adjustment

Adjust the viewfinder display for best viewing.



1 ATTACH HAND STRAP

Slide the strap through the eyelet, pulling firmly to ensure secure attachment.

1 SELECT OPERATION MODE

Set the Power Dial to "REC".

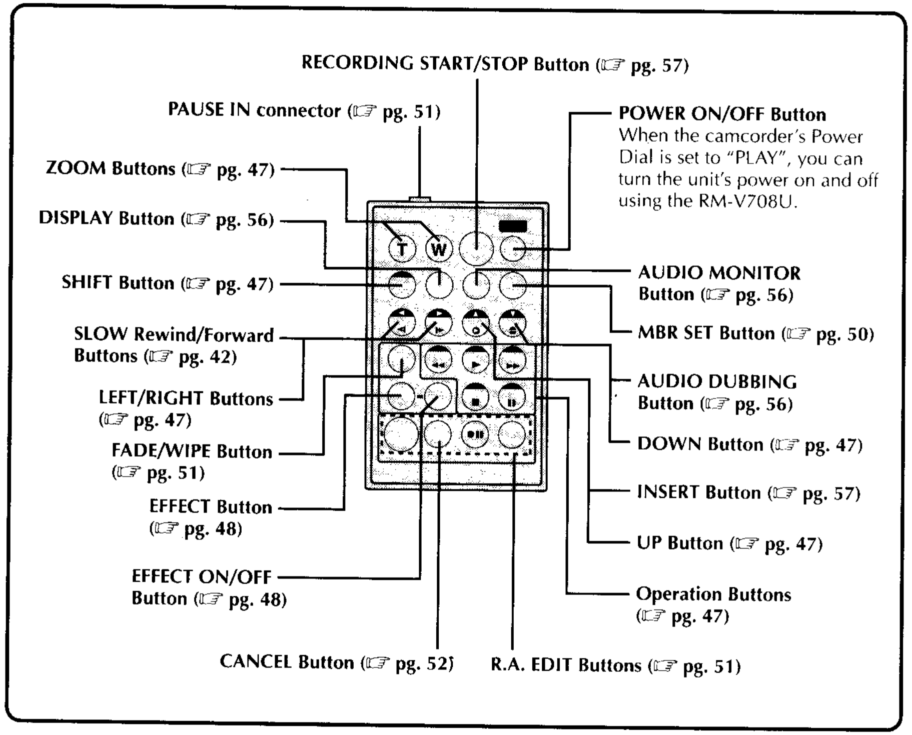
2 ADJUST DIOPTER

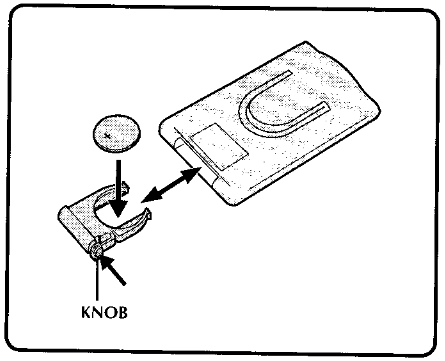
Pull out the viewfinder and slide the Diopter Adjust Lever.

- Slide in either direction, while looking at the viewfinder display, until it looks best to you.

RM-V708U Remote Control Unit

You can use the RM-V708U to control the camcorder when it's attached to the Docking Station.


RECORDING START/STOP Button (☞ pg. 57)
PAUSE IN connector (☞ pg. 51)
POWER ON/OFF Button
When the camcorder's Power Dial is set to "PLAY", you can turn the unit's power on and off using the RM-V708U.
ZOOM Buttons (☞ pg. 47)
DISPLAY Button (☞ pg. 56)
T
W
SHIFT Button (☞ pg. 47)
AUDIO MONITOR Button (☞ pg. 56)
SLOW Rewind/Forward Buttons (☞ pg. 42)
MBR SET Button (☞ pg. 50)
LEFT/RIGHT Buttons (☞ pg. 47)
AUDIO DUBBING Button (☞ pg. 56)
FADE/WIPE Button (☞ pg. 51)
DOWN Button (☞ pg. 47)
EFFECT Button (☞ pg. 48)
INSERT Button (☞ pg. 57)
UP Button (☞ pg. 47)
EFFECT ON/OFF Button (☞ pg. 48)
Operation Buttons (☞ pg. 47)
CANCEL Button (☞ pg. 52)
R.A. EDIT Buttons (☞ pg. 51)



Installing The Battery

The RM-V708U uses one lithium battery (CR2025).

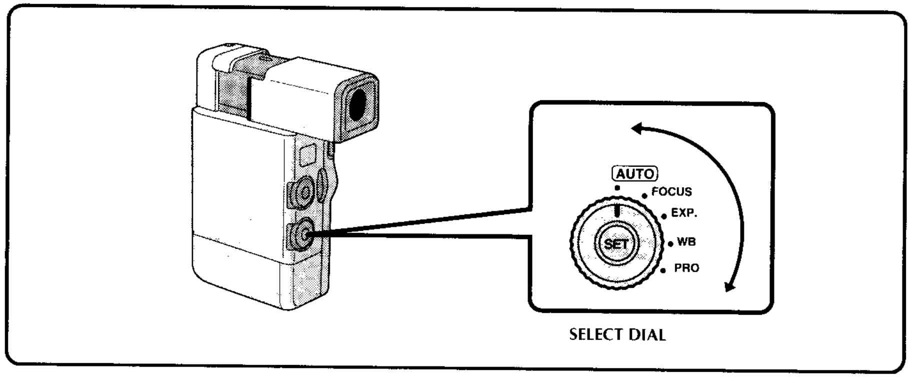
1 PULL OUT BATTERY HOLDER
Pull out in the direction of the arrow while pressing the lid as shown.

2 INSERT BATTERY IN HOLDER
With the "+" side up, place the lithium battery (CR2025) in the holder.

3 RE-INSERT HOLDER
Slide the holder back in until you hear a click.

Full Auto/Manual Operation

The following chart shows you which functions are available in the Full Auto and Manual operation modes.


AUTO
FOCUS
EXP.
WB
PRO
SET
SELECT DIAL

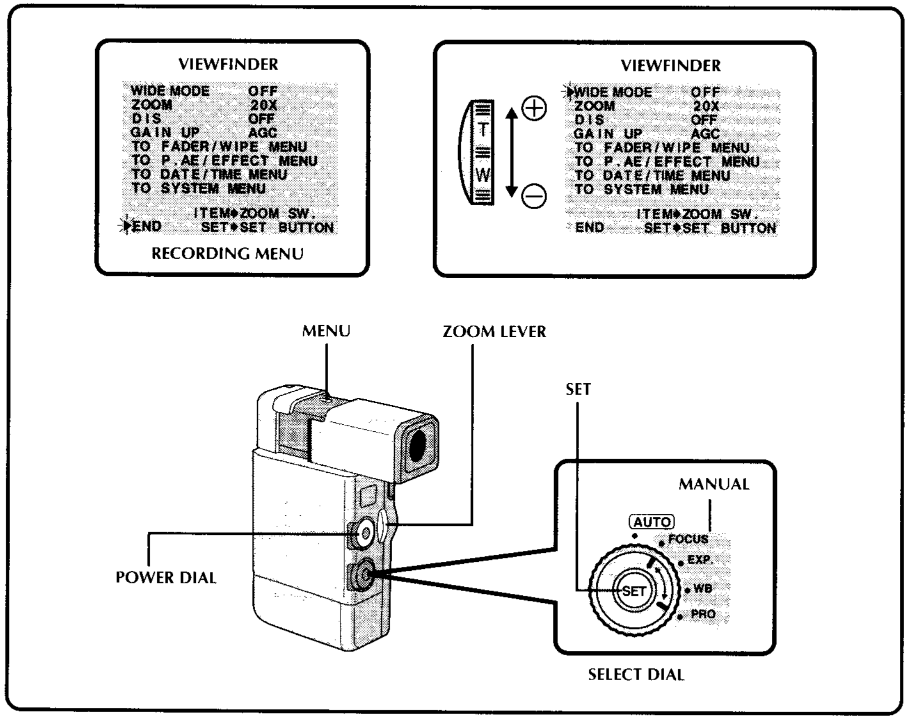
	FULL AUTO MODE	MANUAL MODE			
	SELECT DIAL POSITION	SELECT DIAL POSITION			
	AUTO	FOCUS	EXPOSURE	WB	PRO
Snapshot (☞ pg. 22)	YES	YES	YES	YES	YES
Scene (☞ pg. 19)*2	YES*1	YES	YES	YES	YES
Self-Timer (☞ pg. 25)	YES	YES	YES	YES	YES
Date/Time Display (☞ pg. 27)	ON	ON/OFF	ON/OFF	ON/OFF	ON/OFF
Focus (☞ pg. 40)	AUTO	AUTO/MAN	AUTO/LOCK	AUTO/LOCK	AUTO/LOCK
D.I.Stabilizer (☞ pg. 17)*3	Not operational	ON/OFF	ON/OFF	ON/OFF	ON/OFF
Exposure Control (☞ pg. 36)	AUTO	AUTO/LOCK	AUTO/MAN	AUTO/LOCK	AUTO/LOCK
White Balance (☞ pg. 38)	AUTO	AUTO/LOCK	AUTO/LOCK	AUTO/MAN	AUTO/LOCK
Digital Zoom (☞ pg. 23)	20x only	ON/OFF	ON/OFF	ON/OFF	ON/OFF
P.AE/Effects (☞ pg. 33)	Not operational	YES (can't change once set)			YES
FADER/WIPE (☞ pg. 28)	Not operational	YES (can't change once set)			YES

*1– Factory-preset for "5S". However, if you change the setting in the System Menu (☞ pg. 18), either "5SD" or "ANIMATION" becomes available when you engage the "AUTO" mode.
*2– Records in "AUTO" regardless of Select Dial setting.
- Make sure the Power Dial is in the "MANUAL" position when you make selections at the Recording Menu.

*3– When D.I.Stabilizer is set to "ON", the shutter speed is automatically set to 1/100.

Menus

The Recording Menu allows you to set these functions: *Squeeze, Zoom Magnification, Digital Image Stabilizer, Gain Up, Fade/Wipe (☞ pg. 28), P.AE/Effects (☞ pg. 33), Date/Time Menu,* and *System Menu.* The following selection procedure applies to *Squeeze, Zoom Magnification, Stabilization* and *Gain Up.*


VIEWFINDER
WIDE MODE OFF
ZOOM 20X
DIS OFF
GAIN UP AGC
TO FADER/WIPE MENU
TO P.AE/EFFECT MENU
TO DATE/TIME MENU
TO SYSTEM MENU
ITEM♦ZOOM SW.
END SET♦SET BUTTON
RECORDING MENU
VIEWFINDER
T
W
⊕
⊖
WIDE MODE OFF
ZOOM 20X
DIS OFF
GAIN UP AGC
TO FADER/WIPE MENU
TO P.AE/EFFECT MENU
TO DATE/TIME MENU
TO SYSTEM MENU
ITEM♦ZOOM SW.
END SET♦SET BUTTON
MENU
ZOOM LEVER
SET
MANUAL
AUTO
FOCUS
EXP.
WB
PRO
SET
POWER DIAL
SELECT DIAL

1 SELECT OPERATION MODE

Set the Power Dial to "REC" and set the Select Dial to "MANUAL".

2 ACCESS RECORDING MENU

Press **MENU**. The Recording Menu appears in the viewfinder.

3 SELECT FUNCTION

Place the pointer next to the desired function by sliding the Zoom Lever, then press **SET**. The pointer stops blinking, indicating that the function has been selected.

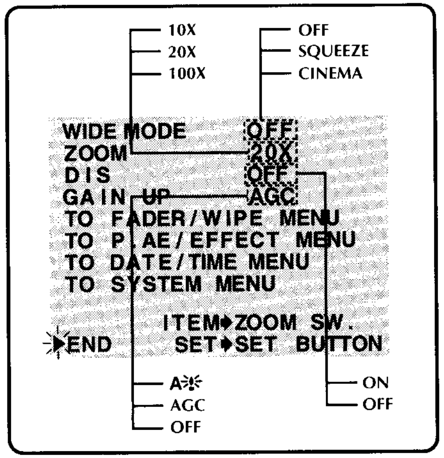
4 SET FUNCTION PARAMETERS

Cycle through the available settings of the selected functions by sliding the Zoom Lever in either direction, and stop when the one you want is displayed. Then press **SET** and the pointer automatically moves to "END".

- To set the parameters for a different function, repeat steps **3** and **4**.

5 CLOSE RECORDING MENU

Press **SET**. Selection is complete and the menu disappears.


10X
20X
100X
OFF
SQUEEZE
CINEMA
WIDE MODE OFF
ZOOM 20X
DIS OFF
GAIN UP AGC
TO FADER/WIPE MENU
TO P.AE/EFFECT MENU
TO DATE/TIME MENU
TO SYSTEM MENU
ITEM♦ZOOM SW.
END SET♦SET BUTTON
A☀
AGC
OFF
ON
OFF

Wide Mode

This recording mode is compatible with wide-screen TVs (16:9 aspect ratio). When using this mode, please refer to your wide-screen TV's instruction manual.

SQUEEZE–For playback on TVs with an aspect ratio of 16:9. Naturally expands the image to fit the screen without distortion. 🅆 appears in the viewfinder.
CINEMA–Inserts black bands at the top and bottom of the screen. Works with both 4:3 and 16:9 TVs. Used with the Sepia (☞ pg. 34) or Monotone (☞ pg. 34) modes, it gives the recorded scenes the look of a classic movie.
OFF–Select "OFF" when you don't want to use either of the above modes (first set the Select Dial to "MANUAL"). *During Full-Auto operation, both Squeeze and Cinema modes are unusable.

When you watch a "SQUEEZE"- or "CINEMA"-mode picture on a wide-screen TV, connect an S-Video cable between connector S1 or S2 on the TV and the S-Video output connector on the Docking Station, and adjust the setting at the TV manually to produce the appropriate 16:9 picture.
During playback, the images is naturally expanded to fit the wide screen, with no proportional distortion.

NOTES:

- *When recording using the Squeeze, the image in the viewfinder, as well as on a regular TV (if connected for playback) will be the standard aspect ratio and the picture will appear squeezed.*
- *When playing back a tape recorded in Squeeze and Cinema, Squeeze cannot be distinguished from Cinema during fast-forward or rewind.*

DIS (Digital Image Stabilizer)

When recording while holding the camcorder in your hand, or when shooting a subject with little or no contrast, subtle hand movements will cause shakiness in the recorded image.

ON–Compensates for relatively small shakes that occur when shooting close up. "⦿" appears in the viewfinder during recording. *This function is usable when the Select Dial is set to "MANUAL".
OFF–When shooting with the camcorder in a fixed position or on a tripod, set the Stabilizer to "OFF". If you leave it on and then move or turn the camera to follow a moving subject, unnecessary compensation occurs and this can result in an unnatural recorded image.

NOTES:

- *The Stabilizer cannot compensate for drastic hand movements while shooting.*
- *The Stabilizer will not work when certain P.AE/ Effects (Classic Film, Strobe, Slow 1, 2 (☞ pg. 34) and Fade/Wipe Effects (Picture Wipe/ Dissolve (☞ pg. 30) are activated. The "⦿" indicator appears blinking in the viewfinder.*

Zoom Magnification

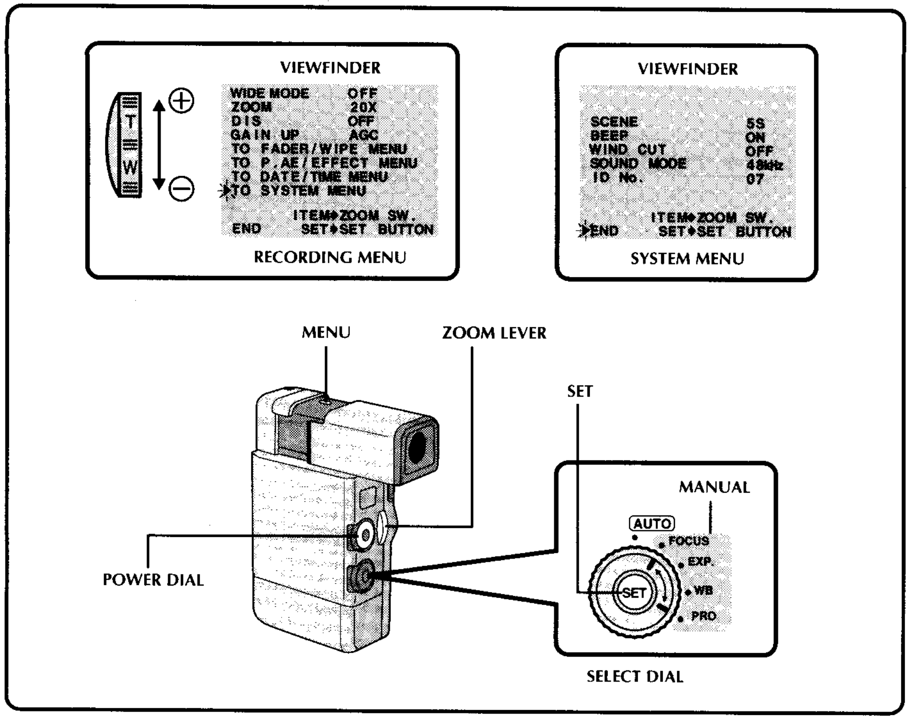
You can select 10x, 20x, or 100x zoom magnifications.

10x–Optical zoom that does not degrade the quality of the recording.
20x–Electronic processing (Digital zoom) that lets you get closer up.
100x–Electronically-processed images at 100-times magnification.

Gain Up

Bright, natural recordings can be taken even in areas with low or poor lighting.

A☀–The shutter speed is automatically adjusted (1/ 25 — 1/200 sec.). Shooting a subject in low or poor lighting at 1/25 sec. shutter speed provides a brighter image than in the AGC mode, but the subject's movements are not smooth or natural.
OFF–Select this setting when lighting is not a problem.
AGC–This is the factory setting, and is automatically activated during Auto operation. The overall appearance is jagged, but the image is bright and the movements are more natural than in "**A☀**" mode.



```
WIDE MODE       OFF
ZOOM            20X
DIS             OFF
GAIN UP         AGC
TO FADER/WIPE MENU
TO P.AE/EFFECT MENU
TO DATE/TIME MENU
➧TO SYSTEM MENU
         ITEM➔ZOOM SW.
END       SET➔SET BUTTON
```

```
SCENE               5S
BEEP                ON
WIND CUT            OFF
SOUND MODE          48kHz
 ID No.             07

         ITEM➔ZOOM SW.
➧END      SET➔SET BUTTON
```

System Menu

The System Menu allows you to set the following functions: *Scene, Beep, Wind Cut, Sound Mode* and ID numbers.

1 SELECT OPERATION MODE

Set the Power Dial to "REC" and set the Select Dial to "MANUAL".

2 ACCESS RECORDING MENU

Press **MENU**. The Recording Menu appears in the viewfinder.

3 ACCESS SYSTEM MENU

Place the pointer next to "TO SYSTEM MENU" by sliding the Zoom Lever, then press **SET**. The System Menu appears in the viewfinder.

4 SELECT FUNCTION

Place the pointer next to the desired function by sliding the Zoom Lever, then press **SET**. The pointer stops blinking, indicating that the function has been selected.

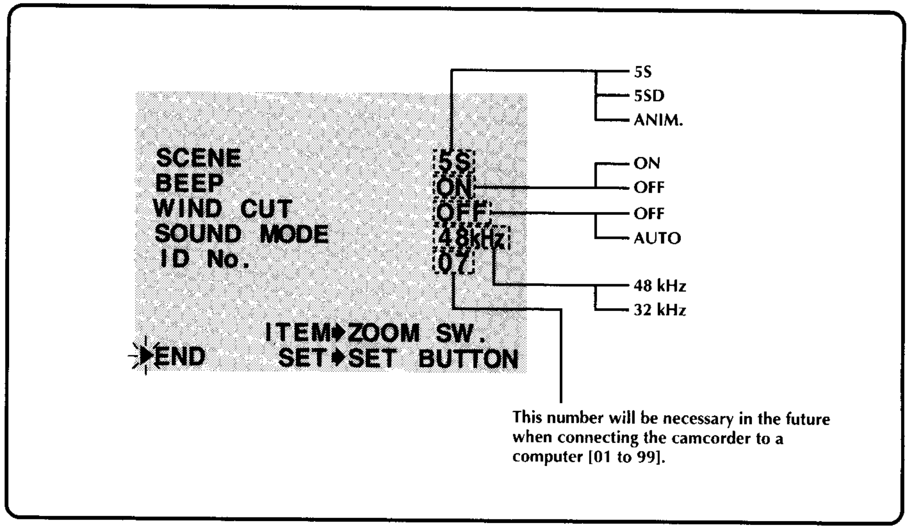
5 SET FUNCTION PARAMETERS

Slide the Zoom Lever in either direction to cycle through the available settings for the selected function, and stop when the desired setting appears. Then press **SET**, and the pointer automatically moves to "END".

- To set the parameters for a different function, repeat steps **4** and **5**.

6 CLOSE SYSTEM MENU

Press **SET** twice. Setting is complete and the System Menu disappears.



```
SCENE          5S
BEEP           ON
WIND CUT       OFF
SOUND MODE     48kHz
 ID No.        07

     ITEM➔ZOOM SW.
➧END  SET➔SET BUTTON
```

This number will be necessary in the future when connecting the camcorder to a computer [01 to 99].

Sound

Sound signals can be sampled at 48 kHz or 32 kHz.

48 kHz–The camcorder is factory-preset for 48 kHz. This setting enables recording of stereo sound on two separate channels. *A tape recorded at 48 kHz cannot be used for Audio Dubbing.
32 kHz–This setting enables recording of stereo sound on four separate channels, and is recommended for use when performing Audio Dubbing.

Scene (5-Second Mode)

This mode is enabled when the Power Dial is set to "5S".

5S–Pressing **RECORDING START/STOP** allows you to take a 5-second "clip". Press repeatedly for a succession of short recordings.
5SD–If you record a 5-second clip within 5 minutes after the previous one, the end of the old scene dissolves and is replaced by the new scene over a 2-second period (☞ pg. 24).
ANIM. (Animation)–Each time you press **RECORDING START/STOP**, a 1/8-second recording is taken. By using an inanimate object and changing its position between shots, you can record the subject as though it's moving.

Beep

The beep sounds when the power is turned on or off, and at the beginning and end of recording.

ON–To activate the beep.
OFF–To turn off the beep.

NOTE:

Beep is automatically turned on during Full Auto operation.

Wind Cut

When activated, this mode helps cut down on noise created by wind.

AUTO–When shooting in high winds, noise is automatically reduced.

- "🌬" appears in the viewfinder.
- The quality of the sound will change. This is normal.

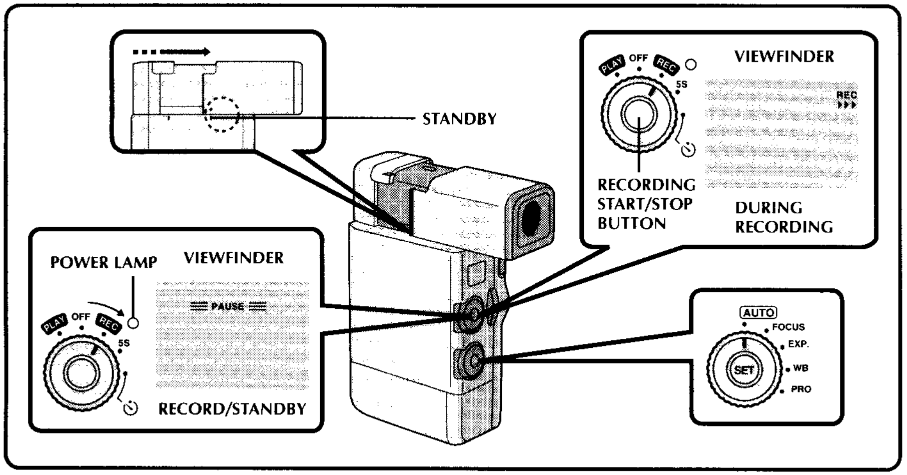
OFF–This function is disabled.

NOTE:

The Wind Cut mode is disabled during Full Auto operation.

Basic Recording

You should already have performed the necessary preparations (☞ pgs. 8 – 19). Set the Select Dial to "AUTO" and try recording that way before attempting to use more advanced features.


STANDBY
VIEWFINDER
PLAY
OFF
REC
5S
REC
RECORDING START/STOP BUTTON
DURING RECORDING
POWER LAMP
VIEWFINDER
PAUSE
RECORD/STANDBY
AUTO
FOCUS
EXP.
SET
WB
PRO

NOTE:

Before starting recording, make sure you set the date and time (☞ pg. 11). Even if they don't appear during recording, they are recorded onto the tape and can be displayed during playback (☞ pg. 45).

1 PULL OUT VIEWFINDER

Align its mark with "STANDBY".

2 TURN ON POWER

Set the Power Dial to "REC". The power lamp comes on and RECORD/STANDBY mode is engaged.

- If you don't pull out the viewfinder, the power cannot be turned on.

3 SELECT OPERATION MODE

Set the Select Dial to "AUTO".

- In the "AUTO" mode, only Zoom (20x), Snapshot, 5S (if you change the setting in the System Menu, either 5SD or ANIMATION becomes available – see pgs. 18 – 19) and Self-Timer are available.

4 START RECORDING

When "PAUSE" appears in the viewfinder, press **RECORDING START/STOP**. A beep signals the start of recording.

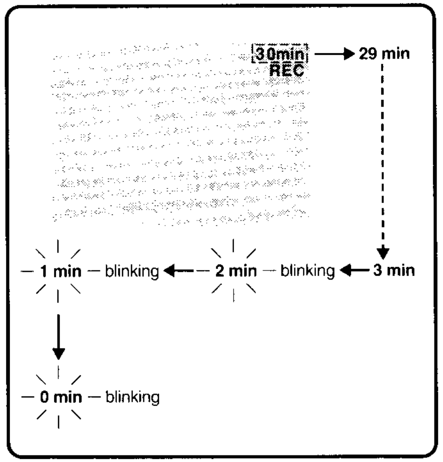
5 END RECORDING

When you're finished recording, press **RECORDING START/STOP**. Align the viewfinder's mark with "CAMERA OFF"; the power lamp goes out and the lens cover closes automatically.

- When transporting, make sure the viewfinder is in this position.
- Before turning the power on again, you must pull out the viewfinder.

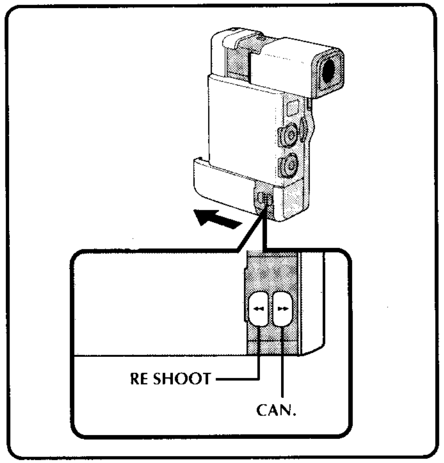
NOTES:

- *If 5 minutes elapse in the RECORD/STANDBY mode, the power shuts off automatically to conserve energy. To turn the camcorder on again, set the Power Dial to "OFF", then to "REC". As long as you don't take out the tape you were using or play it back, you can continue recording from where you left off with no noticeable break.*
- *RECORD/STANDBY means that a tape is loaded and the camcorder is ready to record.*
- *If RECORD/STANDBY (Pause) is engaged for 5 minutes, the Stop mode is automatically activated to protect the heads.*
- *If you start a recording on a blank portion of the tape, or onto a brand new tape, recording starts approximately 3-4 seconds after you press **RECORDING START/STOP**. In order to record the entire scene or sequence, make sure to start recording slightly in advance.*


30min
REC
29 min
3 min
blinking
2 min
blinking
1 min
0 min
blinking

Tape Remaining Indicator

The time remaining on the tape is automatically monitored and displayed in the viewfinder (☞ pg. 60). When the tape ends, "TAPE END" appears in the viewfinder.


RE SHOOT
CAN.

Re Shoot A Scene

If you aren't pleased with a scene you just recorded (after having checked it in the viewfinder), you can easily return to the beginning and record it again.

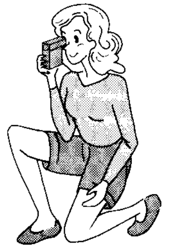
1 ENGAGE RECORD/STANDBY MODE

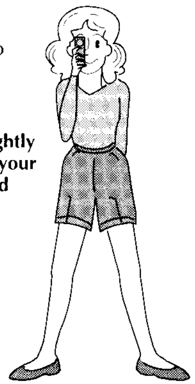
Press **RECORDING START/STOP**, then press **RE SHOOT**. The tape returns automatically to the starting point of the most recent recording, and the camcorder enters RECORD/STANDBY mode.

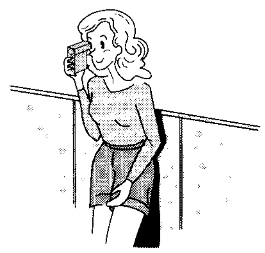
- If, after the tape has rewound to the beginning of the scene, you decide you don't need to re-record, press **CAN**. The tape automatically fast-forwards to the end of the scene.

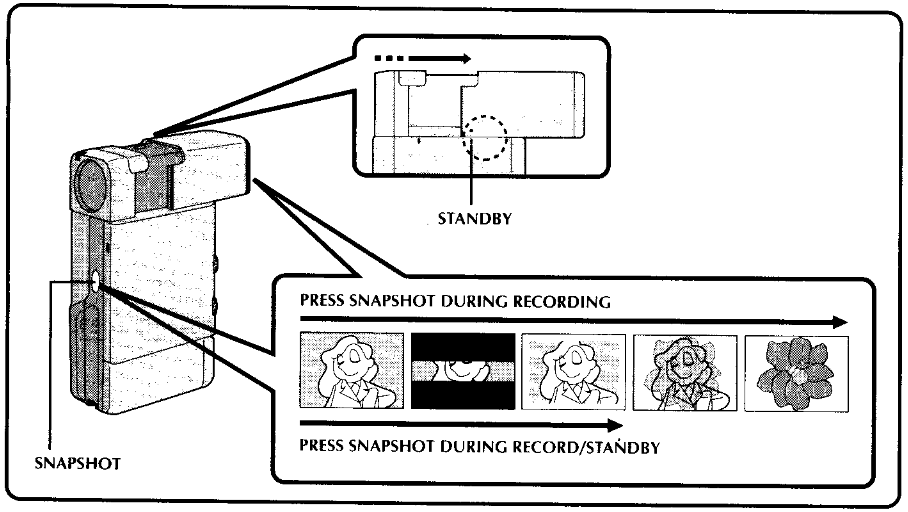
Stable Shooting Positions

Before pressing **RECORDING START/STOP**, **ZOOM** or **SNAP SHOT**, be sure to hold the camcorder with both hands.


For low shooting


Feet set slightly apart with your body turned toward the subject


Fasten hand strap around wrist
Lean against a wall or pole for support


STANDBY
PRESS SNAPSHOT DURING RECORDING
PRESS SNAPSHOT DURING RECORD/STANDBY
SNAPSHOT

Snapshot

Use your camcorder like a regular camera and take a snapshot, or several of them in succession.

1 PULL OUT VIEWFINDER

Align its mark to "STANDBY". The lens cover opens automatically.

2 TAKE SNAPSHOT

Press **SNAPSHOT**. "PHOTO" appears in the viewfinder, and the image, bordered by a white frame, will be recorded and displayed in the viewfinder for 6 seconds. The next image then gradually overlaps the snapshot and normal recording resumes.

- When using the Snapshot function from RECORD/STANDBY, the camcorder returns to RECORD/STANDBY after 6 seconds.
- The sound effect of a shutter closing is recorded together with the image.

Motor Drive mode:

Keeping **SNAPSHOT** pressed provides an effect similar to serial photography. (The interval between the still pictures: approx. 0.7 seconds)

Snapshot Search

The Snapshot Search function enables you to quickly and easily access scenes recorded in the Snapshot mode, or scenes where Strobe was used.

1 ENABLE SNAPSHOT SEARCH

Set the Power Dial to "PLAY".

2 REWIND TAPE

Press **REW**. Let the tape rewind to the beginning, where it stops automatically.

3 BEGIN SEARCH

Press **SNAPSHOT**. The camcorder begins searching for the first scene recorded in Snapshot mode or where the Strobe effect was used.

- If the first scene on the tape was recorded in Snapshot mode or with the Strobe effect, the camcorder may not be able to locate the exact beginning of the scene.

Snapshot Search could malfunction if the recorded tape has:

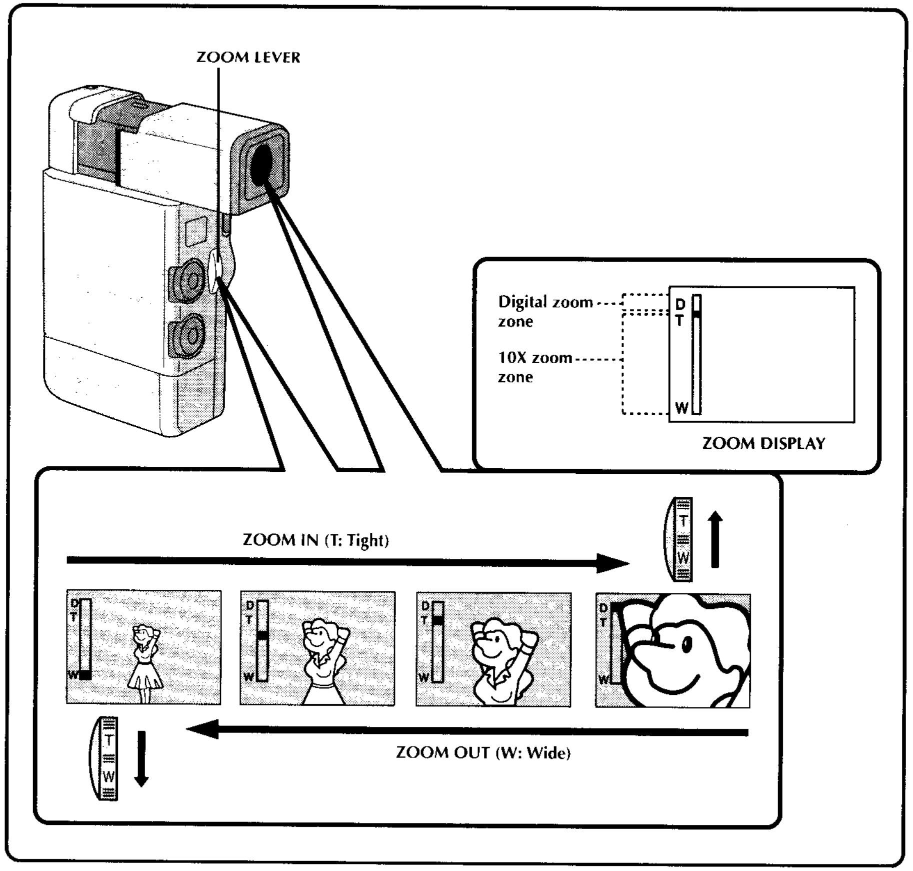
- Too little time between Snap shots
- Blank space between recordings
- Snap shots taken using Motor Drive mode

To Stop A Snapshot Search In Progress . . .

..... press **SNAPSHOT** again.

NOTES:

- *To temporarily stop playback, press **PAUSE**. This is known as "still playback". Press again to resume normal playback. If still playback continues for more than about 3 minutes, the camcorder's Stop mode is automatically engaged. If the camcorder is left in its Stop mode for 5 minutes, its power goes off automatically.*
- *In the future, by attaching the camcorder to the Docking Station and connecting a video printer to the station, it will become possible to print out snapshots.*



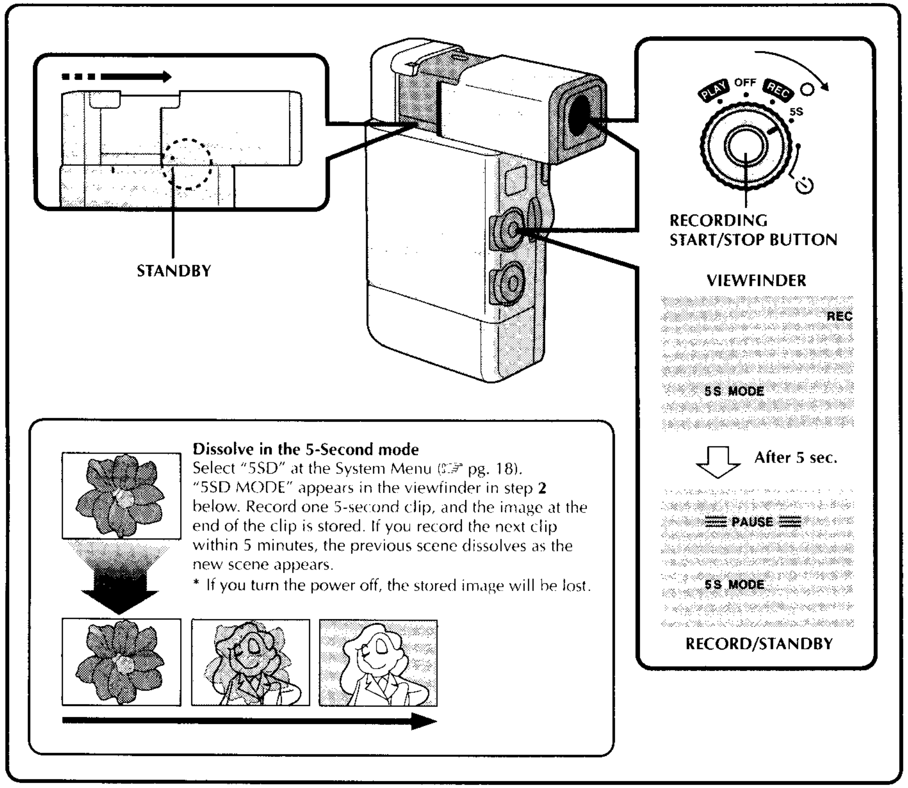
Zoom

Select any one of the three powers of magnification and get "closer" to the subject (☞ pg. 17).

Simply slide the Zoom Lever to either zoom in (toward "+") or zoom out (toward "–"). The Zoom speed is variable — the quicker you slide the Zoom Lever, the quicker the zoom action.

NOTE:

Digital zoom (20x and 100x) cannot be used while the Video Echo effect (☞ pg. 34), the Picture Wipe/ Dissolve function (☞ pg. 30) or the 5SD mode (☞ pg. 24) are activated.



Dissolve in the 5-Second mode
Select "5SD" at the System Menu (☞ pg. 18).
"5SD MODE" appears in the viewfinder in step **2** below. Record one 5-second clip, and the image at the end of the clip is stored. If you record the next clip within 5 minutes, the previous scene dissolves as the new scene appears.
* If you turn the power off, the stored image will be lost.

Scene

Record a vacation or an important event in 5-second clips to keep the action moving. The 5-Second function may also be activated during Full Auto operation. While the 5-Second mode is activated, Fade/Wipe (☞ pg. 28), P.AE/Effects (☞ pg. 33) and other manual operations cannot be performed.

1 PULL OUT VIEWFINDER

Align its mark to "STANDBY". The lens cover opens automatically.

2 SELECT MODE

Set the Power Dial to "5S" and press **RECORDING START/STOP**. "5S" appears in the viewfinder, the tally lamp lights to indicate the start of recording, and after 5 seconds the camcorder enters RECORD/STANDBY mode.

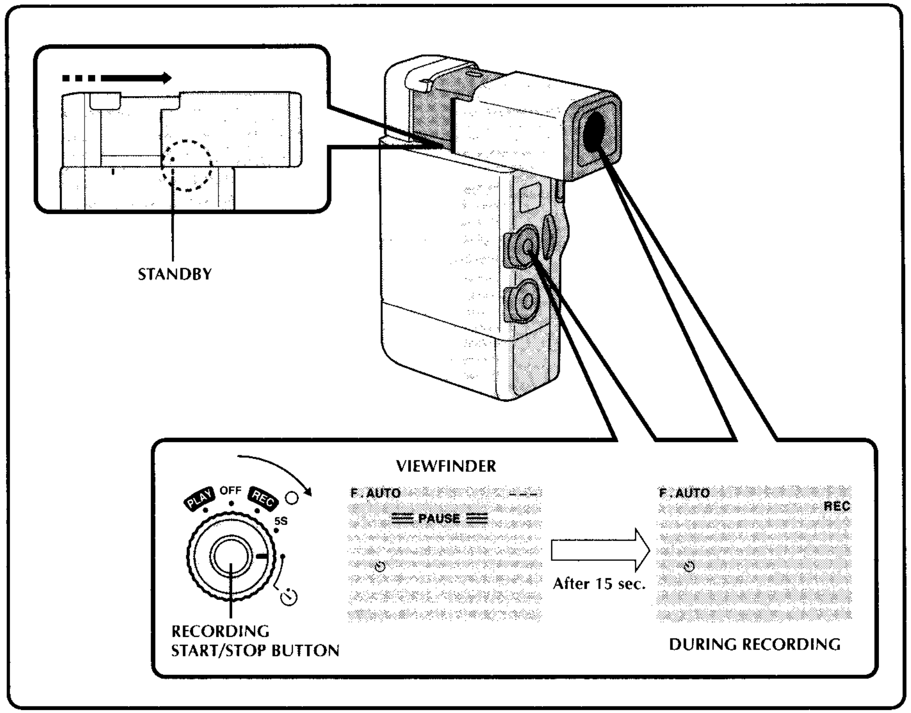
- If you press and hold **START/STOP** within 5 seconds after recording starts, RECORD/STANDBY is not engaged.

3 END 5-SECOND MODE RECORDING

When you're done, set the Power Dial to the "REC" or "OFF" position.

To Take A Snapshot In The 5-Second Mode . . .

..... instead of pressing **RECORDING START/STOP** in step **2**, press **SNAPSHOT**. The camcorder records a 6-second still with the shutter sound, but without the white border.



Self-Timer

Once the camcorder is set, you (or whomever is operating the camcorder) can get into the scene, putting the final touch on a memorable picture.

1 PULL OUT VIEWFINDER

Align its mark to "STANDBY". The lens cover opens automatically.

2 SELECT MODE

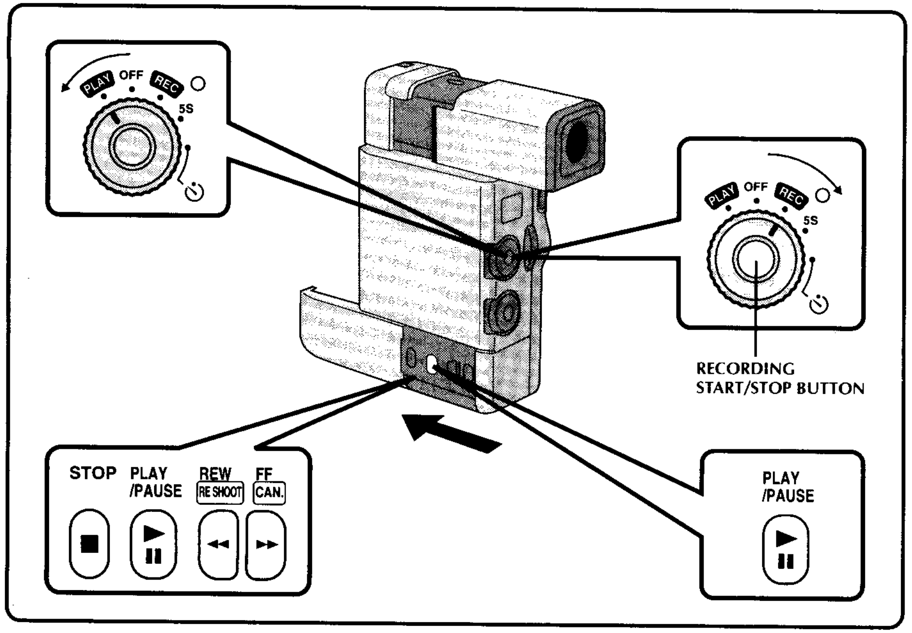
Set the Power Dial to "⏲" and press **RECORDING START/STOP**. "⏲" appears in the viewfinder, and the tally lamp lights and begins blinking 15 seconds before recording starts. When the lamp stops blinking, recording begins.

3 END RECORDING

Press **RECORDING START/STOP** and set the Power Dial to the "REC" or "OFF" position.

To Take A Snapshot In The Self-Timer Mode . . .

..... in step **2**, press **SNAPSHOT** instead of **RECORDING START/STOP**. After 15 seconds, a 6-second still with the shutter sound effect and a white border is recorded. After that, the camcorder enters the RECORD/STANDBY mode.


PLAY
OFF
REC
5S
RECORDING START/STOP BUTTON
STOP
PLAY /PAUSE
REW RE SHOOT
FF CAN.
PLAY /PAUSE

Recording From The Middle Of A Tape

When removing a tape on which you were recording, or when you resume recording on a tape after playing back the recording previously made (without taking the tape out between recordings), perform this procedure.

1 SELECT MODE

Set the Power Dial to "PLAY".

2 START SEARCH

Press **PLAY**, then press **REW** or **FF**. Watch in the viewfinder for the spot where you want to begin recording.

3 ENGAGE STILL MODE

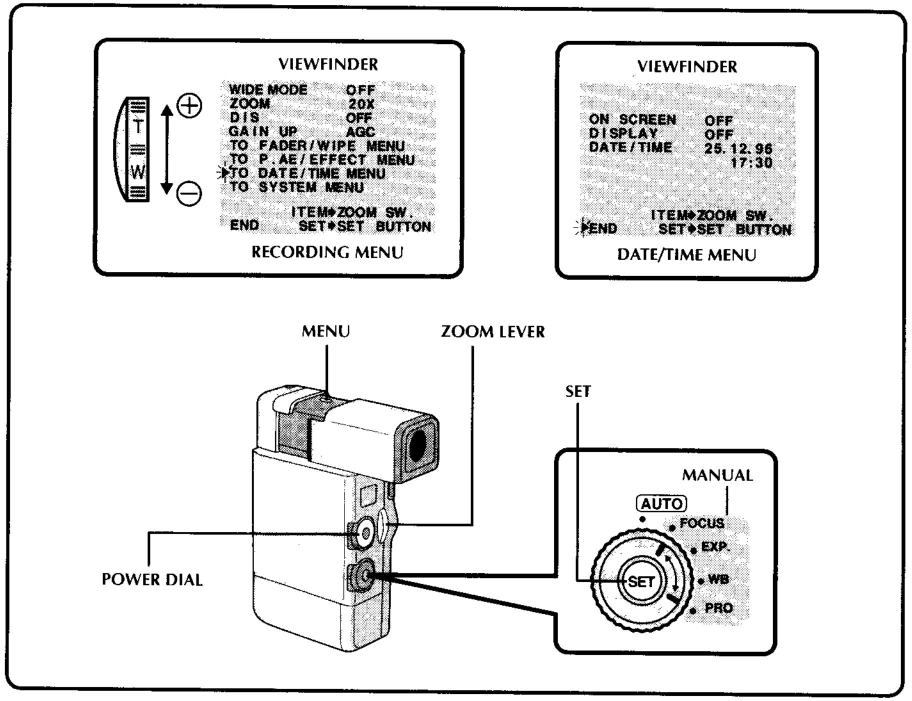
Once you find the spot at which you want to start recording, press **PLAY/PAUSE** to engage the Still mode.

4 START RECORDING

Set the Power Dial to "REC" and press **RECORDING START/STOP**.

NOTES:

- *Starting at 00:00:00 (MIN:SEC:FRAME), the camcorder records a time reference signal from the beginning of the tape. See page 45 for information about displaying Time Codes.*
  The video recording may not start from exactly 00:00:00.
- *The Time Code cannot be reset.*
- *If you start recording from the end of the previous recording leaving no blank space, there may be situations where a clean transition is not possible.*
- *Whenever you start recording in a blank portion, the Time Code counts from 00:00:00. That means the camcorder may record the same Time Codes as a previously-recorded segment. Random Assemble Editing (☞ pg. 51) may not function properly when using a tape with duplicated codes. To prevent this, start recording from the end of the previous recording leaving no blank space. Note that such a blank space may be also left between scenes when a tape is removed and re-inserted.*
- *Even if you record over the blank space between two already-recorded segments, the old Time Codes remain after the newly-recorded portion, and thus duplicated codes will still exist. Random Assemble Editing (☞ pg. 51) may not function properly in the case.*


VIEWFINDER
T
W
+
−
WIDE MODE OFF
ZOOM 20X
DIS OFF
GAIN UP AGC
TO FADER/WIPE MENU
TO P.AE/EFFECT MENU
▶TO DATE/TIME MENU
TO SYSTEM MENU
ITEM➧ZOOM SW.
END SET➧SET BUTTON
RECORDING MENU
VIEWFINDER
ON SCREEN OFF
DISPLAY OFF
DATE/TIME 25.12.96
17:30
ITEM➧ZOOM SW.
▶END SET➧SET BUTTON
DATE/TIME MENU
MENU
ZOOM LEVER
SET
POWER DIAL
MANUAL
AUTO
FOCUS
EXP.
WB
PRO
SET

Displaying The Date And Time During Recording

You must first set the date and time (see "Date/Time Settings" ☞ pg. 11). Set "DISPLAY" to "ON" in the Date/Time Menu. The Date/Time appears in the viewfinder if the Select Dial is set to "MANUAL". The Date/Time is always displayed in the viewfinder when the Select Dial is set to "AUTO".

1 SELECT OPERATION MODE

Set the Power Dial to "REC" and the Select Dial to "MANUAL".

2 ACCESS RECORDING MENU

Press **MENU**. The Recording Menu appears in the viewfinder.

3 ACCESS DATE/TIME MENU

Place the pointer next to "TO DATE/TIME MENU" by sliding the Zoom Lever. Slide toward "+" to move up and toward "–" to move down. Press **SET** and the Date/Time Menu appears in the viewfinder.

4 INPUT DATE AND TIME

Place the pointer next to "DISPLAY" by sliding the Zoom Lever, then press **SET**. The cursor stops blinking, indicating that the function has been selected.

5 SET FUNCTION PARAMETERS

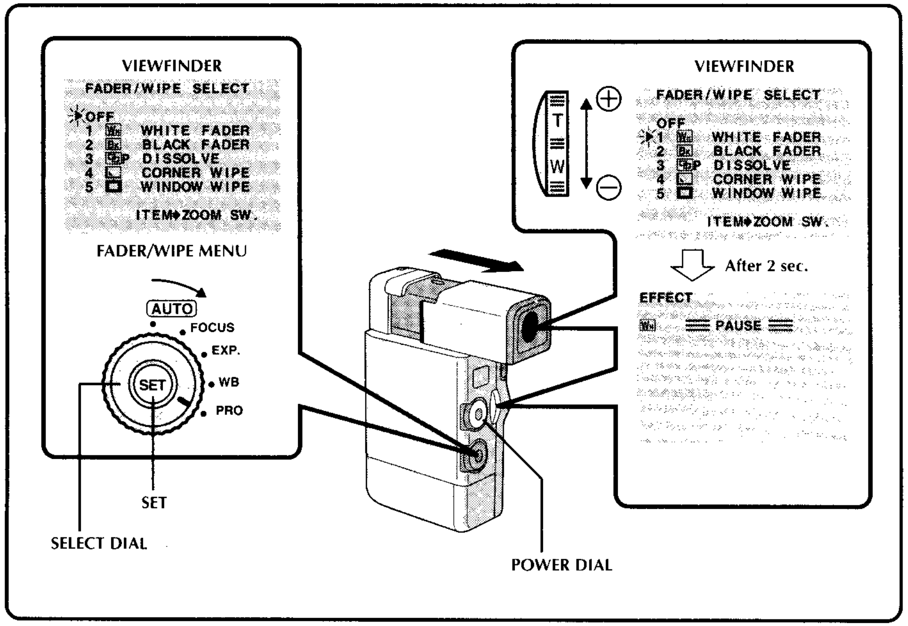
Cycle through the available settings of the selected functions by sliding the Zoom Lever in either direction, and stop when the one you want is displayed. Then press **SET** and the pointer automatically moves to "END".

6 CLOSE RECORDING MENU

Press **SET** twice. Selection is complete and the menu disappears.

NOTE:

Connect the camcorder to a TV and set "ON SCREEN" to "ON" in the Date/Time Menu. The display appears on the connected TV when the camcorder is in RECORD/STANDBY.


VIEWFINDER
FADER/WIPE SELECT
OFF
1 WHITE FADER
2 BLACK FADER
3 DISSOLVE
4 CORNER WIPE
5 WINDOW WIPE
ITEM◆ZOOM SW.
FADER/WIPE MENU
AUTO
FOCUS
EXP.
WB
PRO
SET
SET
SELECT DIAL
POWER DIAL
T
W
VIEWFINDER
FADER/WIPE SELECT
OFF
1 WHITE FADER
2 BLACK FADER
3 DISSOLVE
4 CORNER WIPE
5 WINDOW WIPE
ITEM◆ZOOM SW.
After 2 sec.
EFFECT
PAUSE

FADE/WIPE Effects

Use these to spice up the transition from one scene to the next. You can also vary transitions from scene to scene.

Select any one effect from the Fader/Wipe Menu. To use effects that don't appear in the menu, exchange them (☞ pg. 32).

1 SELECT OPERATION MODE

Set the Select Dial to "PRO". "EFFECT" appears in the viewfinder.

2 ACCESS FADER/WIPE MENU

Press **SET**. The Fader/Wipe Menu appears in the viewfinder.

3 SELECT EFFECT

Place the pointer next to the desired effect by sliding the Zoom Lever.

- Once you select the desired effect, the Fader/Wipe Menu disappears and the effect is activated within 2 seconds. The indicator representing the selected effect appears in the viewfinder.

NOTE:

Refer to pages 29 – 31 for Fade/Wipe effects and techniques.

4 START RECORDING

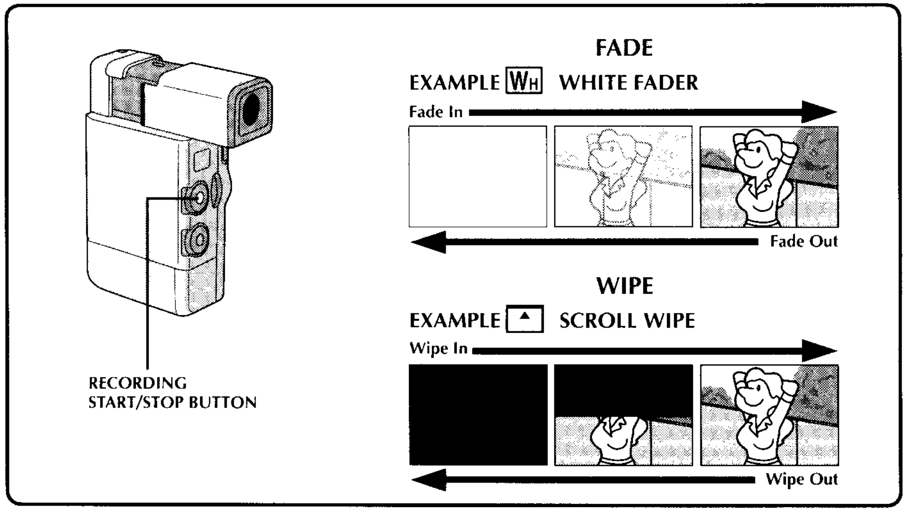
Press **RECORDING START/STOP**. The buzzer sounds, indicating the start of recording.

5 DEACTIVATE FADE/WIPE EFFECTS

In step **3**, place the pointer next to "OFF".

NOTES:

- *If certain P.AE/Effects are activated, some Fade/Wipe Effects cannot be used. If you select a Fade/Wipe Effect that is unusable in the current situation, the indication blinks.*
- *The P.AE Effect Menu is displayed if **SET** is pressed twice. Press **SET** again to display the Fader/Wipe Menu.*
- *Keep **SET** pressed to continue displaying the menu until you make your selection using the Zoom Lever.*
- *Beep won't sound when the Select Dial is set to "MANUAL" (☞ pg. 18) if "BEEP" is set to "OFF" in the System Menu.*


RECORDING START/STOP BUTTON
FADE
EXAMPLE WH WHITE FADER
Fade In
Fade Out
WIPE
EXAMPLE SCROLL WIPE
Wipe In
Wipe Out

Fades and Wipes

A scene gradually appears on a black or white screen (Fade In/Wipe In), or disappears, leaving a black or white screen (Fade Out/Wipe Out). Select Fade or Wipe at the Fader/Wipe Menu (☞ pg. 28).

1 ACTIVATE FADE IN OR WIPE IN

Press **RECORDING START/STOP** to start recording, and the Fade In or Wipe In occurs automatically.

2 ACTIVATE FADE OUT OR WIPE OUT

When you want to stop recording the scene, press **RECORDING START/STOP**. Before the camcorder enters the RECORD/STANDBY mode, the Fade Out or Wipe Out occurs automatically.

NOTE:

*You can extend the length of a fade or wipe by pressing and holding the **RECORDING START/STOP** button.*

WH **WHITE FADER:**
Fade in or out with a white screen.

BK **BLACK FADER:**
Fade in or out with a black screen.

B/W **BLACK & WHITE FADER:**
Fade in to a color screen from a black and white screen, or fade out from color to black and white.

MOSAIC FADER:
Fade in or out with a full-screen mosaic effect.

SHUTTER WIPE:
Wipe in toward the center of a black screen from the top and bottom, or wipe out from the center toward the top and bottom, leaving a black screen.

SLIDE WIPE:
Wipe in from right to left, or wipe out from left to right.

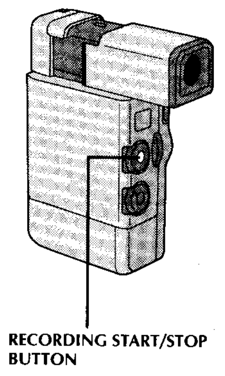
DOOR WIPE:
Wipe in as the two halves of a black screen open to the left and right, revealing the scene, or wipe out and the black screen reappears from left and right to cover the scene.

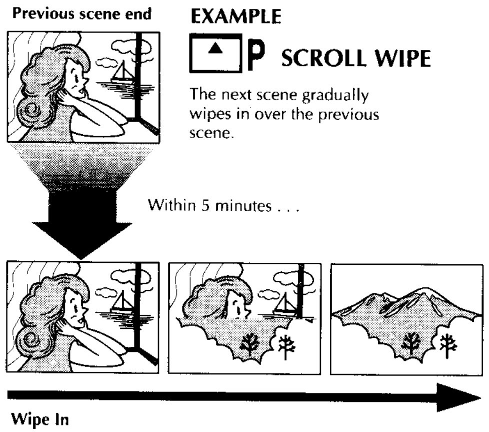
CORNER WIPE:
Wipe in on a black screen from the upper right to the lower left corner, or wipe out from lower left to upper right, leaving a black screen.

WINDOW WIPE:
The scene starts in the center of a black screen and wipes in toward the corners, or comes in from the corners, gradually wiping out to the center.

SCROLL WIPE:
The scene wipes in from the bottom to the top of a black screen, or wipes out from top to bottom, leaving a black screen.

CONTINUED ON NEXT PAGE





The next scene gradually wipes in over the previous scene.

Picture Wipe/Dissolve

Combine the Picture Wipe and Dissolve functions for a professional transition effect. There are 6 Picture Wipe effects and 1 Dissolve effect. Select the Picture Wipe effect at the Fader/Wipe Menu (☞ pg. 28). If you want to use effects not currently appearing on the menu, exchange those appearing for others (☞ pg. 32).

1 START RECORDING

Press **RECORDING START/STOP**.

2 ENGAGE RECORD/STANDBY MODE

Press **RECORDING START/STOP** when one scene is finished. The point at which the scene ended is stored in memory.

3 RESUME RECORDING

If you start recording a new scene within 5 minutes of the end of the previous recording (without having turned the camcorder's power off), the previous scene wipes out from bottom to top, revealing the new scene.

NOTES:

- *If you turn off the power after having finished recording a scene, the stored point is erased. This disables the Picture Wipe/Dissolve combination. When this happens, the Picture Wipe/Dissolve indicator blinks. Try recording again, but don't turn the power off when you're finished. The camcorder stores the end point of the last recorded scene, and you can use Picture Wipe/Dissolve between the last scene and the next one.*
- *The sound at the end of the last recorded scene is not stored.*

◄ P **SLIDE WIPE:**
The next scene gradually wipes in over the previous one from right to left.

◄► P **DOOR WIPE:**
The previous scene wipes out from the center to the right and left, like a door being pushed open to reveal the next scene.

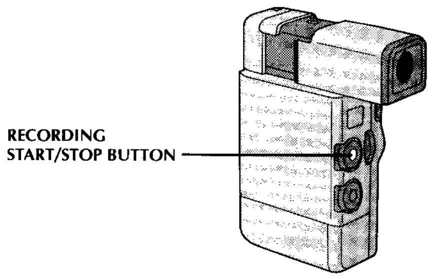
◣ P **CORNER WIPE:**
The new scene wipes in over the previous one from the upper right corner to the lower left corner.

□ P **WINDOW WIPE:**
The next scene gradually wipes in from the center of the screen toward the corners, covering the previous scene.

▲ P **SCROLL WIPE:**
The new scene wipes in over the last one from the bottom of the screen to the top.

▲▼ P **SHUTTER WIPE:**
The new scene wipes in over the previous one from the center toward the top and bottom of the screen.

⧉ P **DISSOLVE:**
The new scene gradually appears as the old one gradually disappears.



Random Variations

?R RANDOM FADER:
When this function is activated, the camcorder randomly selects the effect used in scene transition (from the Fade and Wipe effects).

WH BK B/W ▦ ▲
▲▼ ◄ ◄► ◣ □

The camcorder chooses one of the fades/wipes at random.

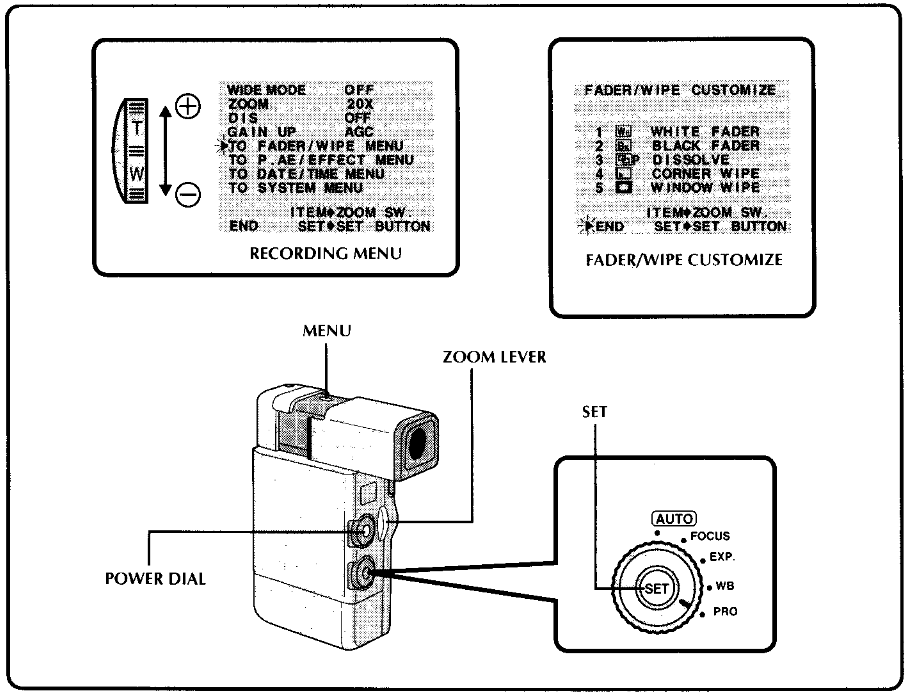
1 START RECORDING

Press **RECORDING START/STOP**, and "?R" appears in the viewfinder. The camcorder does the rest, selecting an effect at random.

- The recording starts with a Fade In or Wipe In. If you press **RECORDING START/STOP** during recording, RECORD/STANDBY mode is preceded by a Fade Out or Wipe Out; when you resume recording, it begins with a Fade In or Wipe In.

NOTES:

- *The Picture Wipe/Dissolve feature is not available when Random Fader is activated.*
- *When using MOSAIC FADER, a black bar may appear at the bottom of the screen.*


T
W
⊕
⊖
WIDE MODE OFF
ZOOM 20X
DIS OFF
GAIN UP AGC
TO FADER/WIPE MENU
TO P.AE/EFFECT MENU
TO DATE/TIME MENU
TO SYSTEM MENU
ITEM♦ZOOM SW.
END SET♦SET BUTTON
RECORDING MENU
FADER/WIPE CUSTOMIZE
1 WHITE FADER
2 BLACK FADER
3 DISSOLVE
4 CORNER WIPE
5 WINDOW WIPE
ITEM♦ZOOM SW.
END SET♦SET BUTTON
FADER/WIPE CUSTOMIZE
MENU
ZOOM LEVER
SET
POWER DIAL
AUTO
FOCUS
EXP.
WB
PRO
SET

Exchanging FADE/WIPE Effects

You can replace the 5 effects currently appearing in the menu with 5 others. After exchanging, the new effects appear in the Fader/Wipe Menu.

1 SELECT OPERATION MODE

Set the Select Dial to "PRO".

2 ACCESS RECORDING MENU

Press **MENU**. The Recording Menu appears in the viewfinder.

3 ACCESS FADER/WIPE CUSTOMIZE MENU

Place the pointer next to "TO FADER/WIPE MENU" by sliding the Zoom Lever, then press **SET**. The Fader/Wipe Customize Menu appears.

4 SELECT EFFECT TO BE REPLACED

Place the pointer next to the number of the effect you want to replace by sliding the Zoom Lever, then press **SET**. The cursor stops blinking.

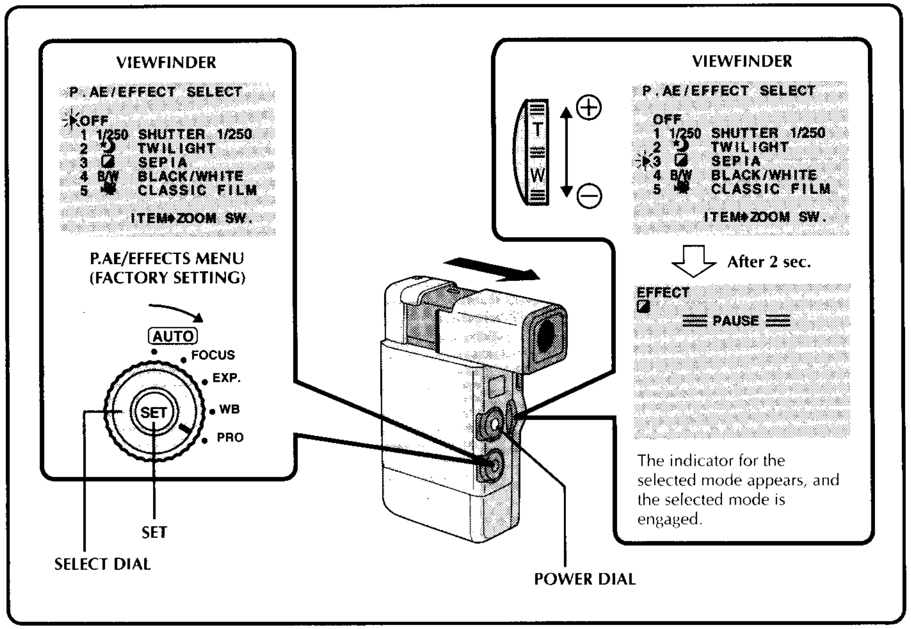
5 SELECT NEW EFFECT

Cycle through the remaining effects by sliding the Zoom Lever in either direction, and stop when the one you want is displayed. Press **SET**.

- The pointer automatically moves to "END".
- To replace other effects, repeat steps **4** and **5**.

6 CLOSE MENU

Press **SET** twice. Selection is complete, and you can use the new effects during recording (☞ pg. 28).


VIEWFINDER
P.AE/EFFECT SELECT
OFF
1 1/250 SHUTTER 1/250
2 TWILIGHT
3 SEPIA
4 B/W BLACK/WHITE
5 CLASSIC FILM
ITEM♦ZOOM SW.
P.AE/EFFECTS MENU
(FACTORY SETTING)
AUTO
FOCUS
EXP.
WB
PRO
SET
SET
SELECT DIAL
VIEWFINDER
T
W
⊕
⊖
P.AE/EFFECT SELECT
OFF
1 1/250 SHUTTER 1/250
2 TWILIGHT
3 SEPIA
4 B/W BLACK/WHITE
5 CLASSIC FILM
ITEM♦ZOOM SW.
After 2 sec.
EFFECT
PAUSE
POWER DIAL

The indicator for the selected mode appears, and the selected mode is engaged.

P.AE/Effects

You can choose any one of the effects from the P.AE/Effects Menu. In addition, you can exchange 5 of the 13 options that appear for other available effects (☞ pg. 35).

1 SELECT OPERATION MODE

Set the Select Dial to "PRO" "EFFECT" appears in the viewfinder.

2 ACCESS PRODUCTION EFFECTS MENU

Press **SET** twice. The P.AE/Effects Menu appears in the viewfinder.

3 SELECT EFFECT

Place the pointer next to the desired effect by sliding the Zoom Lever.

- Approximately 2 seconds after you place the pointer, the P.AE/Effects Menu disappears and the selected mode is activated. The name or symbol of the selected mode appears in the viewfinder.

4 DISABLE PRODUCTION EFFECT

To turn off the selected effect, re-access the P.AE/Effects Menu and place the pointer next to "OFF" by sliding the Zoom Lever.

NOTE:

If certain Fades or Wipes are activated, some P.AE/Effects cannot be used, If you select a P.AE/ Effect that is unusable in the current situation, the effect's name or symbol begins flashing.

CONTINUED ON NEXT PAGE

B/W MONOTONE √

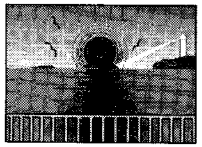
Like classic black and white films, your footage is shot in B/W. Used together with the Wide Cinema function, it enhances the "classic film" effect.

SEPIA √

Recorded scenes have a brownish tint like old photos. Combine this with the Cinema mode for a classic look.

CLASSIC FILM √

Gives recorded scenes a strobe effect.



TWILIGHT √

Makes evening scenes look more natural.

**** Checked "√"effects are factory preset.**
To use other effects, refer to "Exchanging P.AE/ Effects" on page 35.

SLOW (Slow Shutter)

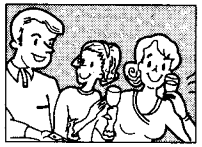
You can light dark subjects or areas even brighter than they would be under good natural lighting.

1 x 4 = 4 times sensitivity (shutter speed 1/12.5 sec.)

2 x 10 = 10 times sensitivity (shutter speed 1/5 sec.)

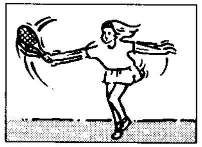
VIDEO ECHO

Adds a "ghost" to the subject, giving your recording a "fantasy" feeling.



STROBE

Your recording looks like a series of consecutive snapshots.



SHUTTER (Variable Shutter Speed)

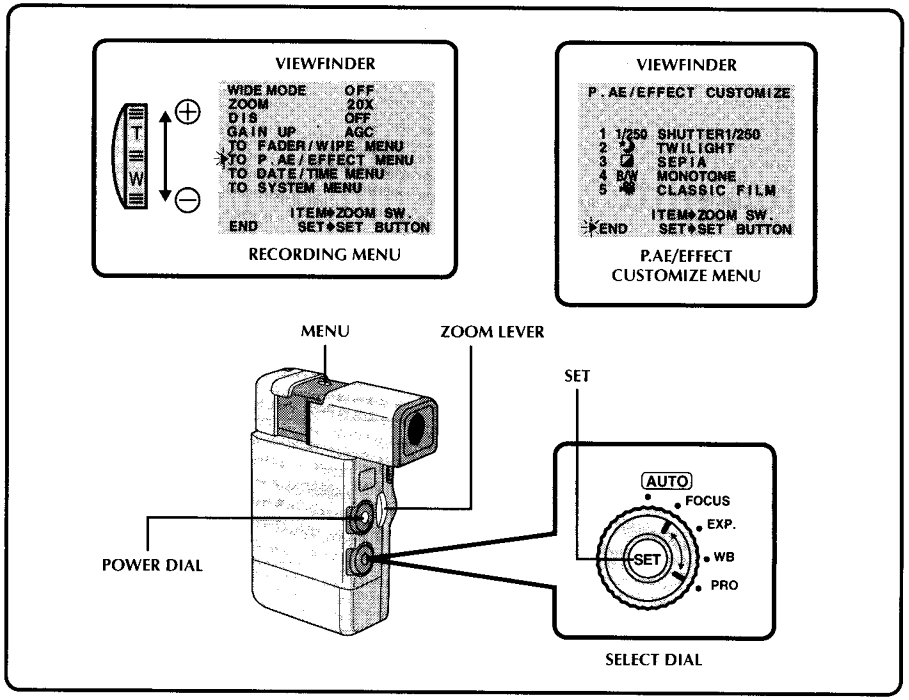
1/50–The shutter speed is fixed at 1/50th of a second.

1/100–The shutter speed is fixed at 1/100th of a second.

1/250 (factory preset), 1/500–These settings allow fast-moving images to be captured one frame at a time, for vivid, stable slow-motion playback. The faster the shutter speed, the darker the picture becomes. Use in areas with good lighting.

NOTES:

- *When using Slow, the image takes on a strobe-like effect.*
- *Use Slow only in dark areas.*
- *The Manual Focus indication may appear and flash when Slow is in use.*
- *If the image is out of focus, adjust manually. It is also recommended that you use a tripod, if possible.*



```
WIDE MODE        OFF
ZOOM             20X
DIS              OFF
GAIN UP          AGC
TO FADER/WIPE MENU
TO P.AE/EFFECT MENU
TO DATE/TIME MENU
TO SYSTEM MENU

           ITEM♦ZOOM SW.
END         SET♦SET BUTTON
```

```
P.AE/EFFECT CUSTOMIZE

1 1/250 SHUTTER1/250
2       TWILIGHT
3       SEPIA
4 B/W   MONOTONE
5       CLASSIC FILM

           ITEM♦ZOOM SW.
END        SET♦SET BUTTON
```

Exchanging P.AE/Effects

You can replace 5 of the effects that appear in the menu with 5 others.

1 SELECT MODE

Set the Select Dial to "PRO".

2 ACCESS RECORDING MENU

Press **MENU**. The Recording Menu appears in the viewfinder.

3 ACCESS PRODUCTION EFFECTS CUSTOMIZE MENU

Place the pointer next to "TO P.AE/EFFECT MENU" by sliding the Zoom Lever. Then press **SET** and the P.AE/Effect Customize Menu appears in the viewfinder.

4 SELECT EFFECT TO BE REPLACED

Place the pointer next to the number of the effect you want to replace by sliding the Zoom Lever, then press **SET**. The pointer stops blinking.

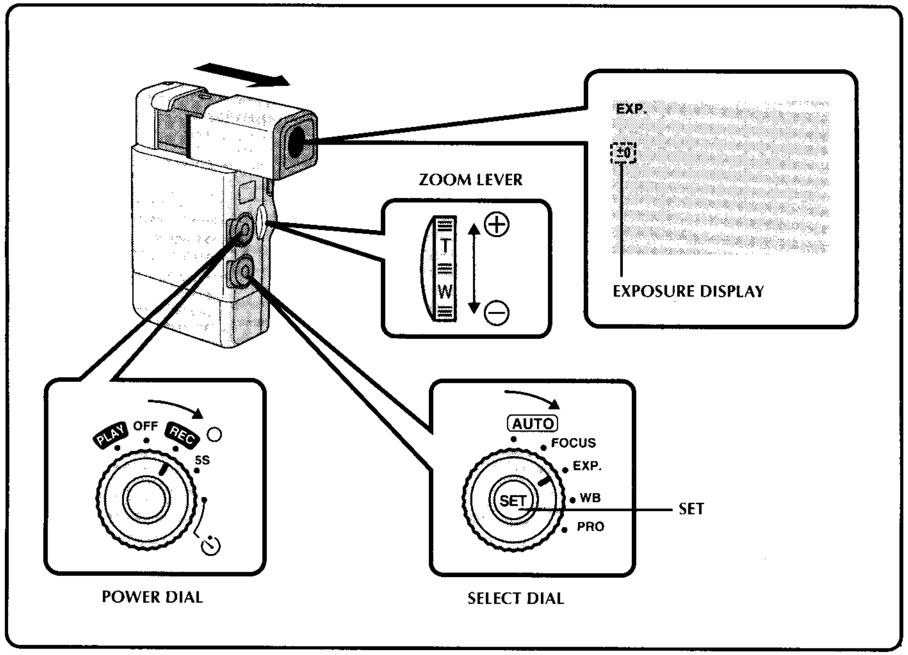
5 SELECT NEW EFFECT

Cycle through the remaining effects by sliding the Zoom Lever in either direction, and stop when the one you want is displayed. Press **SET**.

- The pointer automatically moves to "END".
- To replace other effects, repeat steps **4** and **5**.

6 CLOSE MENU

Press **SET** twice. Selection is finished, and you can use the new effect(s) in recording (☞ pg. 33).



Exposure Control

Usually this is adjusted automatically. However, when the background is too bright or too dark in comparison with the subject, adjust the Exposure manually.

1 SELECT MODE

Set the Select Dial to "EXP". "EXP" is displayed in the viewfinder.

2 ADJUST EXPOSURE

Slide the Zoom Lever while holding down **SET**. The Exposure Control indicator appears in the Viewfinder.

- The adjustment range is from –6 to +6. Slide toward "+" to brighten the image, or toward "–" to darken it.

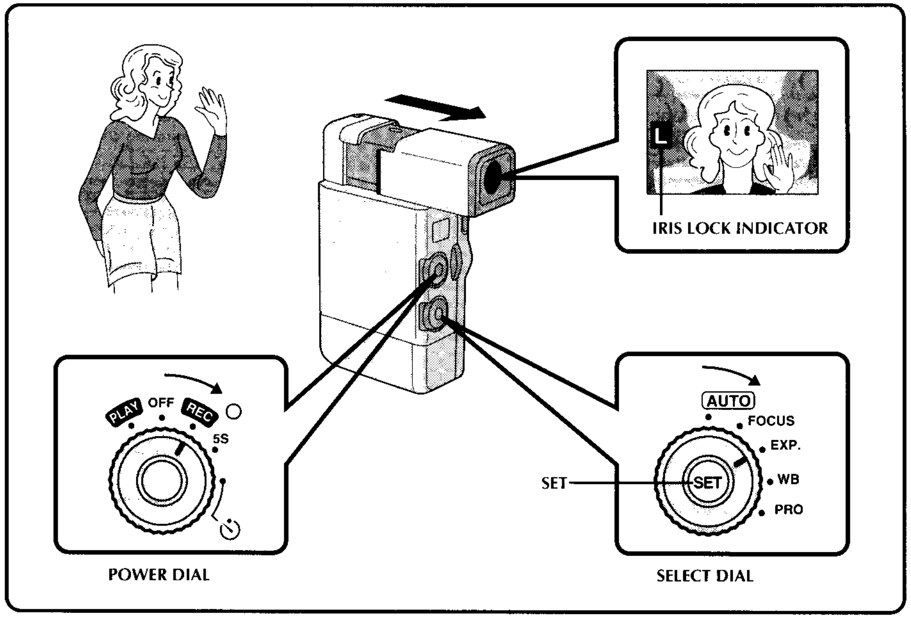
To Return To Automatic Exposure Control . . .

..... set the Select Dial to "EXP", then press **SET** quickly. The Exposure setting display disappears. Or set the Select Dial to "AUTO".

NOTES:

Manual exposure adjustment is recommended in the following situations:

- *When shooting using reverse lighting or when the background is too bright.*
- *When shooting on a reflective natural background such as at the beach or when skiing.*
- *When the background is overly dark or the subject light.*



Iris Lock

Use this function when shooting a moving subject, when zooming, when the subject changes its distance (thus its size in the viewfinder), or when you want to lock the brightness level.

When the subject is close, keep the iris locked. Even when the subject moves away from you, the image will not darken.

1 SELECT MODE

Set the Select Dial to "EXP". "EXP." is displayed in the viewfinder.

2 CENTER SUBJECT, LOCK IRIS

Adjust zoom so that the subject fills the viewfinder, then press and hold **SET** for about 2 seconds. The exposure setting display and "L" appear, indicating that the iris is locked.

To Return To Automatic Iris Control . . .

..... set the Select Dial to "EXP", then press **SET**. The exposure setting display and "L" disappear. Or set the Select Dial to "AUTO".

NOTES:

Iris lock is recommended in the following situations:

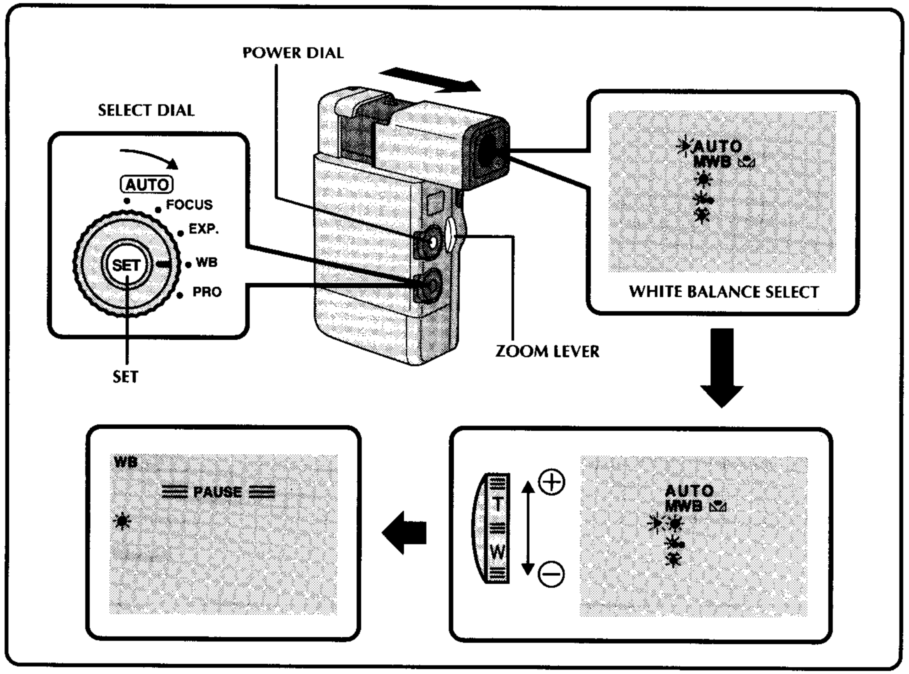
- *When shooting on a reflective natural background such as at the beach or when skiing.*
- *When shooting objects under a spotlight.*
- *When the subject is backing away.*
- *When zooming.*

****Locking the exposure control and the iris**

After step **1**, adjust the exposure using the Zoom Switch while holding **SET**. Then lock the iris in step **2**. For automatic locking, press **SET** quickly. The iris becomes automatic after about 2 seconds.

Iris

Works like the pupil of the human eye. In a well-lighted environment, the human pupil contracts to keep too much light from enterintg. In low lighting, the pupil dilates to allow more light in.



White Balance Adjustment

A term that refers to the correctness of color reproduction under various lighting. If the white balance is correct. all other colors will be accurately reproduced.
The white balance is usually adjusted automatically. However, when you want to shoot in various types of lighting, or when shooting a scene with changing tint, use this function.

1 SELECT MODE

Set the Select Dial to "WB". "WB" appears in the viewfinder.

2 ACCESS WHITE BALANCE DISPLAY

Press **SET**. The White Balance display appears in the viewfinder.

3 ADJUST WHITE BALANCE

Slide the Zoom Lever in the appropriate direction while watching in the viewfinder.

AUTO–The white balance is adjusted automatically. This is the factory preset position.
MWB ⊠ –When shooting with the white balance already having been set on the subject (☞ pg. 39).

"☀"– When shooting outdoors on a sunny day.

"⛅"–When shooting outdoors on a cloudy day.

"✹"– When using a video light or other similar type of lighting.

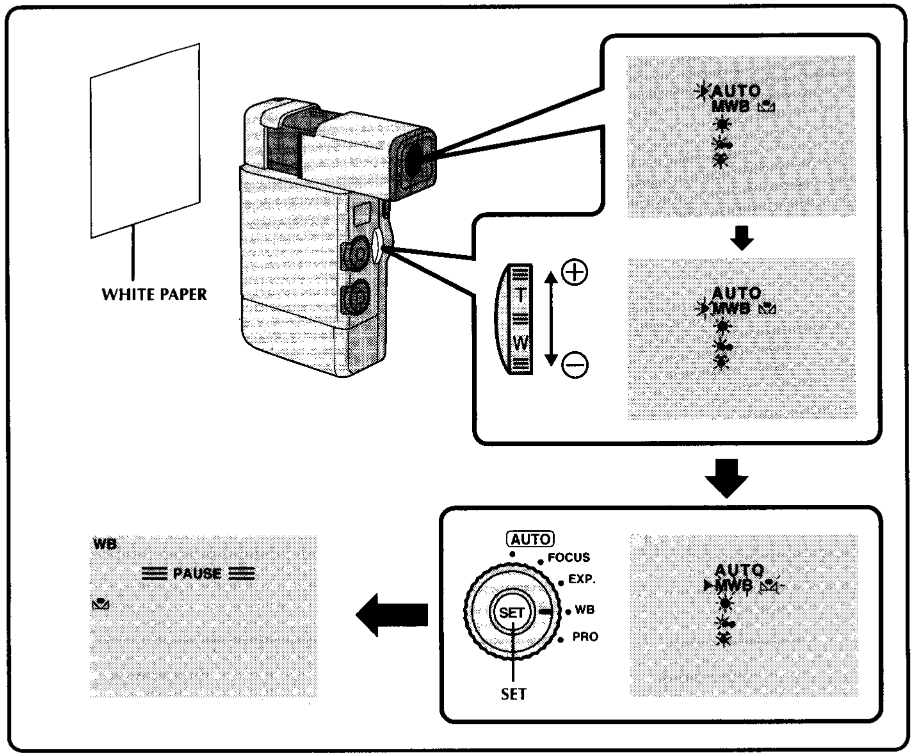
4 ENTER SELECTION

Press **SET**. Setting is complete and the indicator representing the selected setting appears in the viewfinder.

To Return To Automatic White Balance . . .
..... select "AUTO" in step **3**. Or set the Select Dial to "AUTO".

NOTES:

- *White balance cannot be used when P.AE/Effects Sepia or Monotone are activated.*
- *Confirm the tint setting on a TV before connecting, to make sure the displays are as close as possible.*



MWB Operation

Set this function before shooting subjects under various types of lighting.

1 SELECT MODE

In step **3** of the White Balance adjustment (☞ pg. 38), select "MWB ⊠".

2 SET MWB

Hold a sheet of plain white paper in front of the subject. Adjust zoom or position yourself so that the white paper fills the screen.

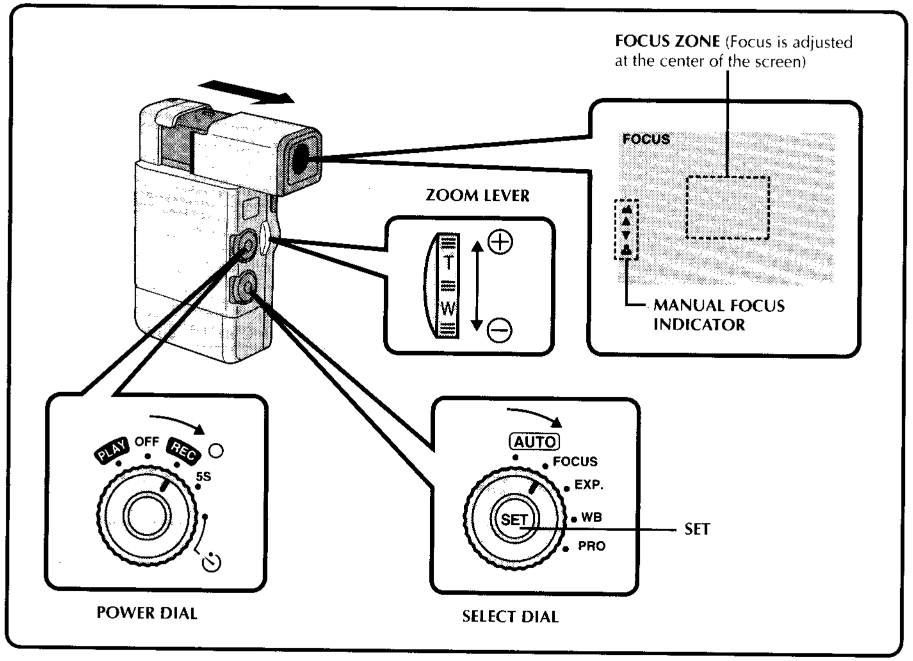
3 ENTER SETTING

Press and hold **SET.** When the MWB ⊠ indicator begins blinking, release the button. The camcorder exits the menu and setting is complete.
The MWB indicator ⊠ appears in the viewfinder.

To Change The Tint For Recording . . .
..... In step **2**, substitute colored paper for white. The white balance is adjusted based on the color, changing the tint. Red paper — deeper green; blue paper — orange; yellow paper — deeper purple.

NOTES:

- *A subject can be shot under various types of lighting conditions indoors (natural, flourescent, candlelight, etc.). Because the color temperature is different depending on the light source, the tint of the subject will differ depending on the white balance settings. Use this function for a more natural result.*
- *Once you adjust white balance during MWB operation, the setting is retained even if the power is turned off or the battery removed.*



Manual Focus Adjustment

The recorder, in most cases, adjusts the focus from 10 cm to infinity automatically. However, when focusing is difficult or when the subject is not in the middle of the viewfinder, adjust the focus manually.

1 SELECT MODE

Set the Select Dial to "FOCUS". "FOCUS" is displayed in the viewfinder.

2 ACCESS MANUAL FOCUS DISPLAY

Press **SET**. The Manual Focus display appears in the viewfinder. The focus is locked at this point.

3 ADJUST FOCUS

While holding down **SET**, slide the Zoom Lever toward "+" to adjust to faraway targets, or toward "–" to focus on closer targets.

- When the focus reaches its near or far limit, the "▲" or "▲" will begin blinking.
- When focus cannot be adjusted manually, try zooming in or out, then try the manual focus adjustment again.

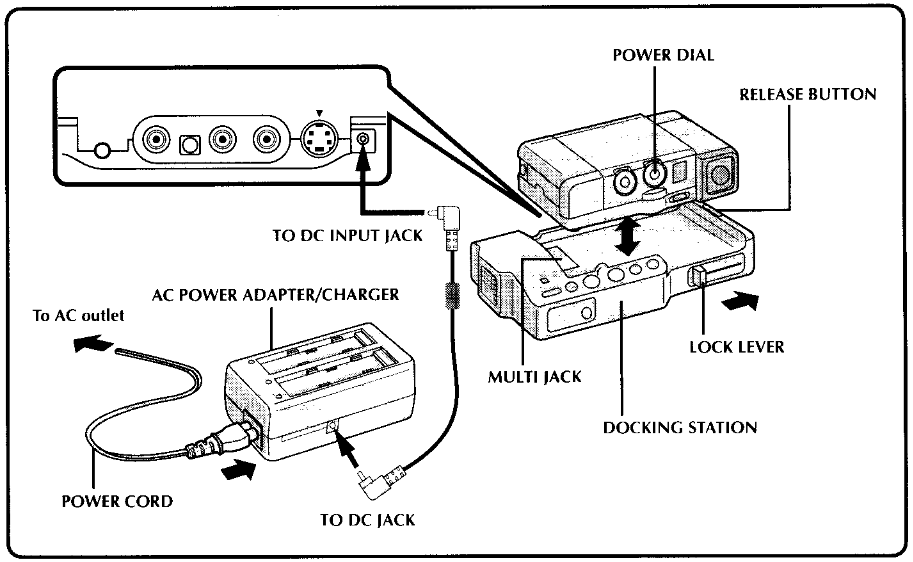
To Change To Auto Focus . . .

..... set the Select Dial to "FOCUS" and press **SET** once quickly. The manual focus indications disappear. Or set the Select Dial to "AUTO".

NOTES:

Manual focus is recommended in the following situations:

- *When shooting a flat wall, a blue sky or an object with little or no contrast.*
- *When wire or other obstacles come between the camcorder and the subject.*
- *When shooting in dark places.*
- *When shooting objects with a detailed design or pattern.*
- *When shooting under flourescent or flickering lighting.*



Docking Station Attachment

When you attach your camcorder to the Docking Station, you can add many interesting effects during playback.

1 CONFIRM POWER-OFF STATUS

Make sure the camcorder's power is off.

2 PLACE CAMCORDER IN DOCKING STATION

If you plan to use the **MENU** button while the camcorder is docked, you need to pull out its viewfinder before attaching.

3 ATTACH AND LOCKS

Press down on the camcorder and slide the Lock Lever in the direction of the arrow. The camcorder and the Docking Station are now securely attached.

- Make sure that the camcorder does not have a DC cord or an AV cable connected to it before attaching.
- When removing the camcorder, press the Release button and lift the camera out.

4 SUPPLY POWER

Connect the optional AC Adapter between the Docking Station and an AC outlet.

- The Docking Station cannot function using the camcorder's battery.

5 SELECT MODE

Set the Power Dial to "PLAY".

Using The Remote Control During Playback

Once the camcorder is attached to the Docking Station, you can use the RM-V708U remote control for regular playback, slow motion (approx. 1/10 speed– ☞ pg. 42), Playback Zoom (☞ pg. 47), and P.AE/Effects (☞ pg. 48).

Charging The Camcorder Battery

If you attach the camcorder with the battery installed to the Docking Station, you can charge the battery. Set the Power Dial to "OFF", then perform steps **1** through **4** of the Docking Station Attachment procedure. The Docking Station's charging lamp starts blinking to indicate that charging has begun. When it stops blinking but stays on, charging is complete. It normally take approximately 170 minutes to charge using this method.

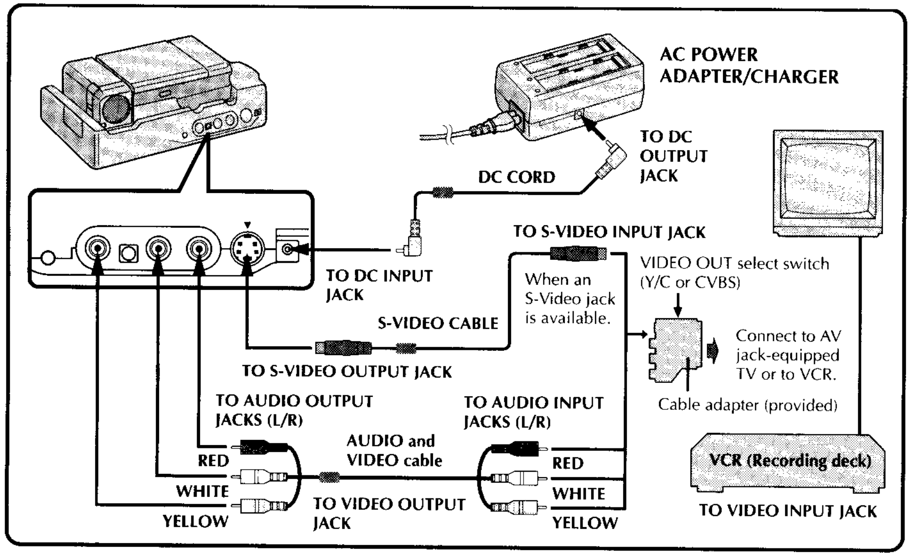
- Do not attach or remove the battery while the camcorder is attached to the Docking Station.

TV Playback

* Please refer to your VCR and/or TV instruction manual(s) when connecting.

NOTE:

During playback, if the camcorder is left on its side for an extended period, its surface will become very warm. It is recommended that you use the Docking Station (☞ pg. 41) or the CAM Stand (☞ pg. 43) during playback.


AC POWER ADAPTER/CHARGER
TO DC OUTPUT JACK
DC CORD
TO S-VIDEO INPUT JACK
VIDEO OUT select switch (Y/C or CVBS)
When an S-Video jack is available.
TO DC INPUT JACK
S-VIDEO CABLE
Connect to AV jack-equipped TV or to VCR.
Cable adapter (provided)
TO S-VIDEO OUTPUT JACK
TO AUDIO OUTPUT JACKS (L/R)
TO AUDIO INPUT JACKS (L/R)
AUDIO and VIDEO cable
RED
WHITE
YELLOW
TO VIDEO OUTPUT JACK
RED
WHITE
YELLOW
VCR (Recording deck)
TO VIDEO INPUT JACK

1 CONNECT DOCKING STATION TO TV OR VCR

Connect as shown in the illustration.

2 TURN ON POWER

Turn on the power to the camcorder and the TV/VCR.

3 SELECT TV'S VIDEO MODE

Set the TV to the channel or mode appropriate for video playback.

If Using A VCR . . . go to step **4**.
If not . . . go to step **5**.

4 CONNECT VCR OUTPUT TO TV INPUT

Refer to your VCR's instruction manual.

5 START PLAYBACK

Press **PLAY**. You can watch the scenes you recorded on the TV.

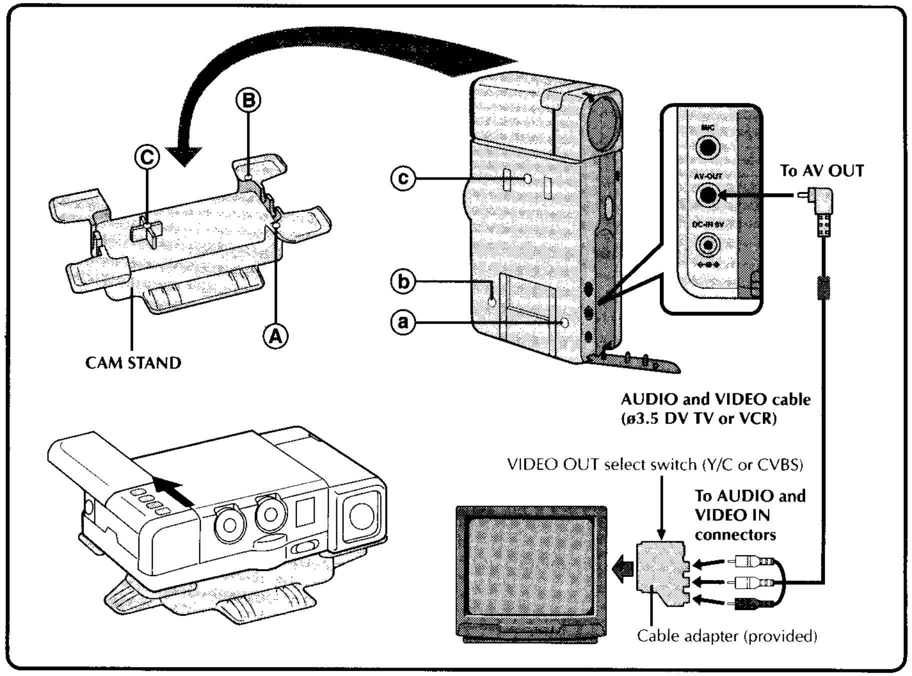
6 END PLAYBACK

Press **STOP** and, if you're not going to continue using the camcorder, set the Power Dial to "OFF".

NOTES:

- *If, when using an S-Video cable, there's no picture, connect the camcorder's output to the regular video input on the TV or VCR and try again.*
- *To change from normal to slow-motion playback, press* ***PAUSE****, then point the remote control at the Docking Station and press* ***SLOW****. After playing back in slow motion for about 20 seconds, normal playback resumes. To stop slow-motion playback in progress, press* ***PLAY****.*
- *During slow-motion playback, due to digital image processing, the picture may take on a mosaic effect.*
- *Set the VIDEO OUT select switch of connector as required: either to "CVBS" (with the direct VCR connection) or to "Y/C" (with the RGB converter connection).*

VCR/TV Connection


Ⓑ
Ⓒ
CAM STAND
Ⓐ
ⓒ
ⓑ
ⓐ
MIC
AV-OUT
DC-IN 6V
To AV OUT
AUDIO and VIDEO cable (ø3.5 DV TV or VCR)
VIDEO OUT select switch (Y/C or CVBS)
To AUDIO and VIDEO IN connectors
Cable adapter (provided)

1 CONNECT CAMCORDER TO TV OR VCR

Connect as shown in the illustration.

2 ATTACH CAM STAND TO CAMCORDER

Line up Ⓐ with ⓐ, Ⓑ with ⓑ and Ⓒ with ⓒ. The CAM Stand has two sides. One side is used to hold the camcorder upright and the other side is used to hold the camcorder flat.

3 TURN ON POWER

Turn on the power to the camcorder and the TV/VCR.

4 SELECT TV'S VIDEO MODE

Set the TV to the channel or mode appropriate for video playback.

If Using A VCR . . . go to step **5**.
If not . . . go to step **6**.

5 CONNECT VCR OUTPUT TO TV INPUT

Refer to your VCR's instruction manual.

6 START PLAYBACK

Slide the cover (☞ pg. 44) and press **PLAY**. You can watch the scenes you recorded on the TV.

7 END PLAYBACK

Press **STOP** and, if you're not going to continue using the camcorder, set the Power pDial to "OFF".

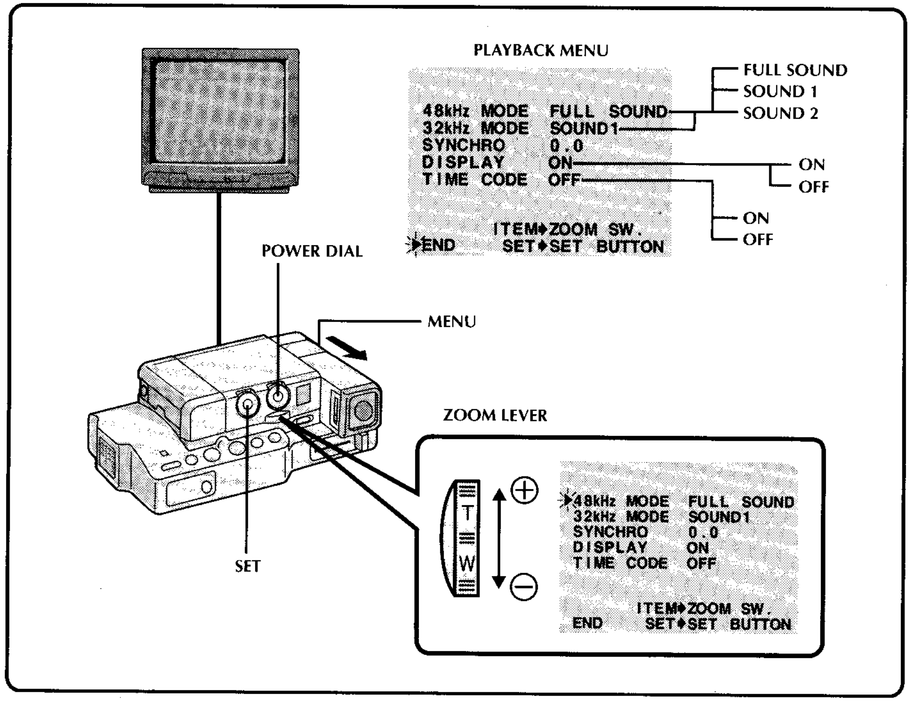
NOTES:

To choose whether or not the following displays appear on the connected TV . . .

- *Date/Time, Time Code*
  ..... set to "ON" or "OFF" in the Playback Menu (☞ pg. 45).
- *Playback Sound Mode Display*
  ..... set the Power Dial to "REC", and set "ON SCREEN" in the Date/Time Menu (☞ pg. 27) to "ON" or "OFF". Then set the Power Dial back to "PLAY".
- *Set the VIDEO OUT select switch of connector as required: either to "CVBS" (with the direct VCR connection) or to "Y/C" (with the RGB converter connection).*

Playback Menu

The Playback Menu allows you to set the following functions: *Playback Sound (48 kHz, 32 kHz), Synchro Comp, Display* and *Time Code*. The following procedure applies to all except *Synchro Comp* (☞ pgs. 54 – 55).


PLAYBACK MENU
48kHz MODE FULL SOUND
32kHz MODE SOUND1
SYNCHRO 0.0
DISPLAY ON
TIME CODE OFF
ITEM⇨ZOOM SW.
END SET⇨SET BUTTON
FULL SOUND
SOUND 1
SOUND 2
ON
OFF
ON
OFF
POWER DIAL
MENU
ZOOM LEVER
SET
T
W
⊕
⊖
48kHz MODE FULL SOUND
32kHz MODE SOUND1
SYNCHRO 0.0
DISPLAY ON
TIME CODE OFF
ITEM⇨ZOOM SW.
END SET⇨SET BUTTON

1 ACCESS PLAYBACK MENU

Press **MENU**. The Playback Menu appears in the viewfinder and on the connected TV.

2 SELECT FUNCTION

Place the pointer next to the desired function by sliding the Zoom Lever, then press **SET**. The pointer stops blinking, indicating that the function has been selected.

3 SET FUNCTION PARAMETERS

Slide the Zoom Lever to cycle through the available settings for the selected function, and stop when the desired setting appears. Then press **SET**, and the pointer automatically moves to "END".

- To set parameters for other functions, repeat steps **2** and **3**.

4 CLOSE MENU

Press **SET** again, and the menu disappears.

Playback Sound

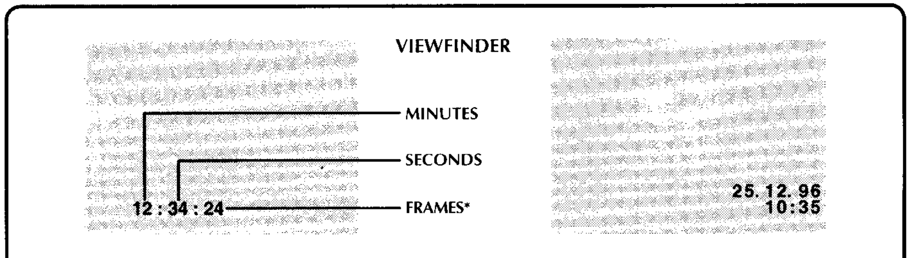
During playback, the camcorder detects the sound mode in which the recording was made, and plays the sound back. Select the type of sound to accompany your playback picture. (48 kHz is preset to "FULL SOUND" and 32 kHz is preset to "SOUND 1".)

RECORDING SOUND	DISPLAY	OUTPUT SOUND
48 kHz	FULL SOUND	Stereo sound
	SOUND 1	"L" sound is output on both channels
	SOUND 2	"R" sound is output on both channels
32 kHz	FULL SOUND	Stereo sound
	SOUND 1	
	SOUND 2	

When watching a tape recorded at 48 kHz, if you want to change the output sound, access the Playback Menu and, in step **3** on page 44, select "48kHz MODE" and set it for "FULL SOUND", "SOUND 1" or "SOUND 2". When playing back a tape recorded at 32kHz, set in the same manner. For information on output sound during Audio Dubbing, see page 56.

NOTES:

- *You can also use the RM-V708U remote control's* ***AUDIO MONITOR*** *Button to change the output sound (without having to access the Playback Menu). Make sure you point the remote control at the Docking Station's sensor.*
- *During playback, the camcorder detects the sound mode in which the recording was made. This detection cannot be made during fast-forward or rewind.*


VIEWFINDER
MINUTES
SECONDS
FRAMES*
12 : 34 : 24
25. 12. 96
10:35

*25 frames = 1 second

Displaying The Time Code During Playback

You can display the Time Code on screen during playback. This is especially useful for editing. This function is preset to "OFF". To turn it on, select "TIME CODE" at the Playback Menu and change the setting.

ON– The Time Code is displayed on the playback screen.

OFF–The Time Code doesn't appear.

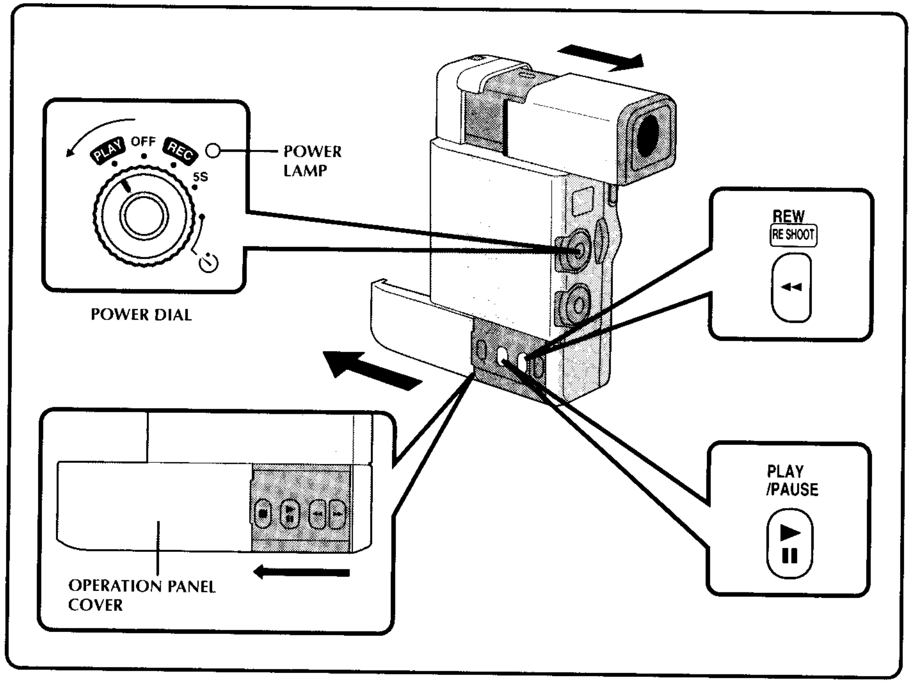
Displaying the Date During Playback

If the time has been set, the date is automatically recorded separately from the recorded video signal. You can display or remove the date anytime during playback. This function is preset to "ON". To turn it off, select "DISPLAY" at the Playback Menu and change the setting.

ON– The date is displayed on the playback screen.

OFF–The date is not displayed, or is removed.

You can watch what you've recorded in the viewfinder.



1 SELECT MODE

Pull out the viewfinder and set the Power Dial to "PLAY".

2 OPEN COVER

Slide the camcorder's Operation Panel cover as shown in the illustration.

3 REWIND TAPE

Press **REW**. If you rewind all the way to the end of the tape, it stops automatically.

4 WATCH RECORDING

Press **PLAY**. You can watch the recording in the viewfinder.

5 END PLAYBACK

Press **STOP** and set the Power Dial to "OFF".

To Perform High-Speed Search . . .

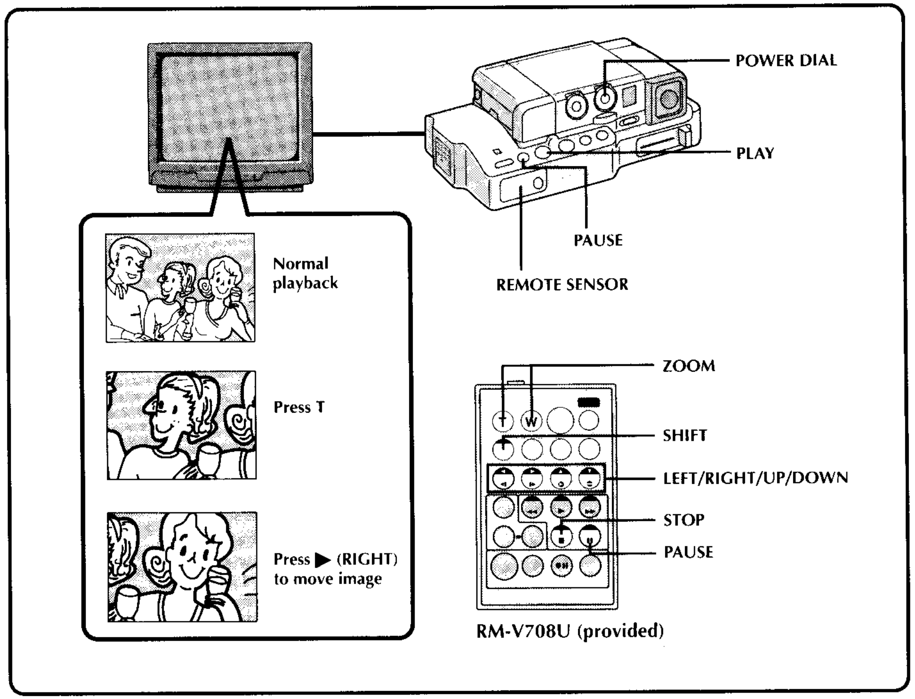
..... press **REW** or **FF** after pressing **PLAY**. The tape will move at approximately 9 times the normal playback speed. Watch in the viewfinder and, when you reach the spot you want to see, press **PLAY** and normal playback resumes.

NOTES:

- *You can also perform a High-Speed Search by pressing and holding* ***REW*** *or* ***FF*** *during the* ***PLAY*** *mode. The search continues as long as you hold the button. Once you release it, normal playback resumes.*
- *A slight mosaic effect appears on screen during High-Speed Search. This is not a malfunction.*
- *The sound is not available during High-Speed Search.*

Still Playback

To temporarily stop playback, press **PAUSE**. Press again to resume playback. If still playback continues for more than about 3 minutes, the camcorder's Stop mode is automatically engaged. After 5 minutes in the stop mode, the camcorder's power is automatically turned off.



RM-V708U (provided)

Playback Zoom

The recorded pictures can be magnified up to 10x at any time during playback.

1 FIND 'ZOOM' SCENE

Press **PLAY** to start playback.

2 ACTIVATE ZOOM

Press **ZOOM** on the remote control. Make sure the remote control is pointed at the Docking Station's sensor.

- Pressing **T** zooms in.

3 LOCATE PORTION OF MAGNIFIED SCENE

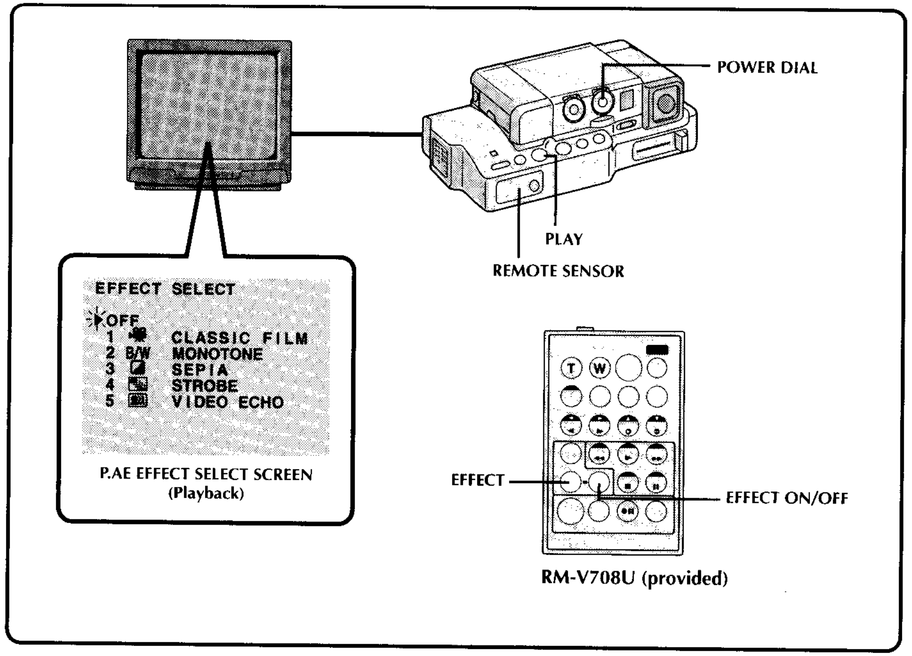
You can move the image on screen around to find a particular portion of the picture. While holding down **SHIFT**, press **◀ (LEFT)**, **▶ (RIGHT)**, **▲ (UP)** and **▼ (DOWN)**.

4 END ZOOM

Press and hold **W** until magnification returns to normal. Or, press **STOP** and then press **PLAY**.

NOTES:

- *Zoom can also be used during slow-motion and normal playback.*
- *If the Video Echo effect (☞ pg. 34) is selected during playback zoom, playback zoom is canceled.*



Playback Effects

These effects allow you to be creative with the playback picture. You can use any one of the 5 effects.

1. **START PLAYBACK**
   Press **PLAY**.
2. **ACCESS PRODUCTION EFFECTS MENU**
   Point the remote control at the Docking Station's sensor and press **EFFECT**. The Production Effects Menu appears on the connected TV.
3. **SELECT EFFECT**
   Place the pointer next to the desired effect by pressing **EFFECT**. After 2 seconds the menu disappears and the selected function is activated.

NOTE:

To deactivate the selected effect, press ***EFFECT ON/OFF*** *on the remote control.*

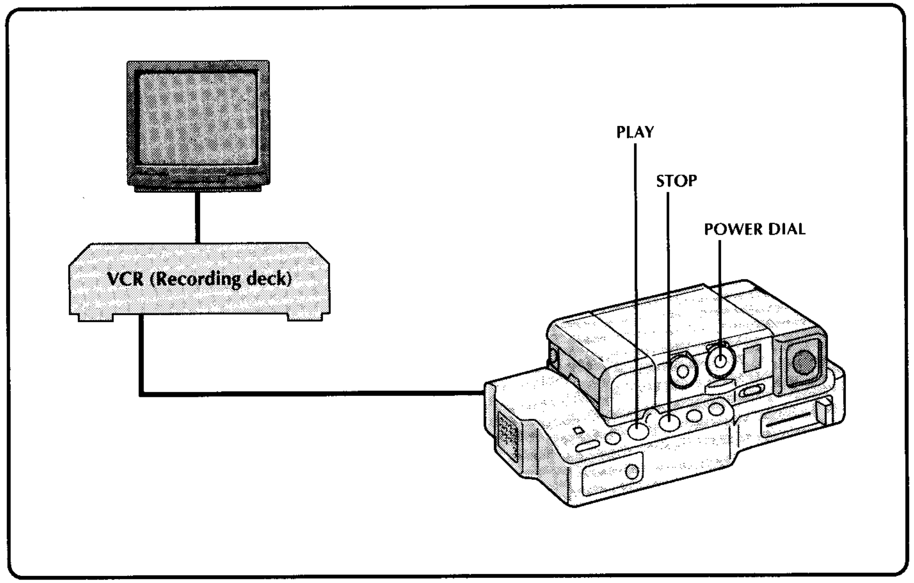
The effects that can be used during playback are *Classic Film, Monotone, Sepia, Strobe and Video Echo*. The effects work the same in playback as they did in recording. Refer to page 34 for more information.

Docking Station

Refer to "Docking Station Attachment" on pages 41 and 42 for attachment procedures. Make sure the camcorder is attached to the Docking Station before beginning editing.

Dubbing

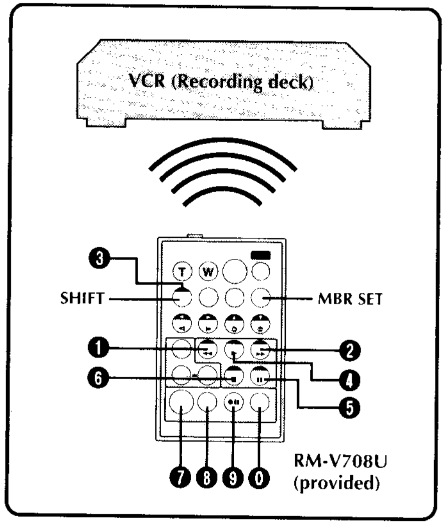
You can copy recorded scenes from the camcorder onto a videotape. Refer to your VCR's instruction manual for details.



1. **MAKE CONNECTIONS**
   Connect the Docking Station to your VCR as shown in the illustration on page 42.
2. **START PLAYBACK**
   Press **PLAY** to play back the source tape.
3. **START RECORDING**
   While watching on the connected TV, engage your VCR's record mode from the spot on the source tape you want to begin recording.
4. **PAUSE RECORDING**
   Engage your VCR's pause mode to stop recording a segment.
5. **END RECORDING**
   Press **STOP** to stop the source tape, and engage the VCR's stop mode.

NOTES:

- *You can use Playback Zoom (☞ pg. 47) or Playback P.AE/Effects (☞ pg. 48) in step* ***2***.
- *Before you start dubbing, make sure that the viewfinder indications don't appear on the connected TV. If they do appear during dubbing, they are being recorded onto the new tape.*
  To clear the Playback Sound Mode Display, press ***DISPLAY*** *on the RM-V708U Remote Control.*
- *Select "DISPLAY" and "TIME CODE" from the Playback Menu to show or hide the Date/Time and the Time Code on the recording.*


VCR (Recording deck)
❸
SHIFT
MBR SET
❶
❷
❻
❹
❺
❼❽❾⓿
RM-V708U
(provided)

VCR CODE LIST

VCR BRAND NAME	BUTTONS (A)	(B)
AKAI	❻ ❻ ❼	❷ ❹ ❼
BLAUPUNKT	❶	❸
FERGUSON	❾ ❾ ❸	❼ ❽ ❷
GRUNDIG	❶ ❸	❹ ❹
HITACHI	❻ ❻	❻ ❸
JVC A B C	❾ ❾ ❾	❶ ❻ ❸
MITSUBISHI	❻ ❻	❼ ❽
NEC	❸ ❸	❼ ❽
PANASONIC	❶ ❶ ❶ ❾ ❶	❸ ❼ ❶ ❹ ❽
PHILIPS	❶ ❾ ❶ ❾ ❾ ❾ ❶ ❸	❾ ❺ ❶ ❹ ❶ ❻ ❷ ❸
SANYO	❸ ❸	❻ ❺
SELECO, REX	❾ ❾	❶ ❻
SHARP	❶ ❶	❺ ⓿
SONY	❻ ❻ ❸ ❸	❺ ⓿ ❾ ❶
THOMSON, TELEFUNKEN, SABA, NORDMENDE	❾ ❾ ❾ ❸	❶ ❻ ❼ ❷
TOSHIBA	❻ ❻	❾ ❶

Brand Setting

Before you can perform Automatic Dubbing, or control the VCR using the RM-V708U remote control, you must set the VCR brand.

The remote control is capable of controlling basic VCR functions (PLAY, FF, REW, PAUSE, STOP). After you've set the brand, point the remote at the VCR's sensor and press the appropriate button.

* Some video decks cannot be controlled.

There are two types of signals:

A → Operation Confirmation

When the VCR does not operate . . .

B → Operation Confirmation

The following procedure explains how to set the VCR brand.

NOTE:

Make sure the VCR's power is off before beginning the procedure.

1 PRESS AND HOLD SET BUTTON

Make sure the remote control is pointed at the VCR.

2 ENTER BRAND

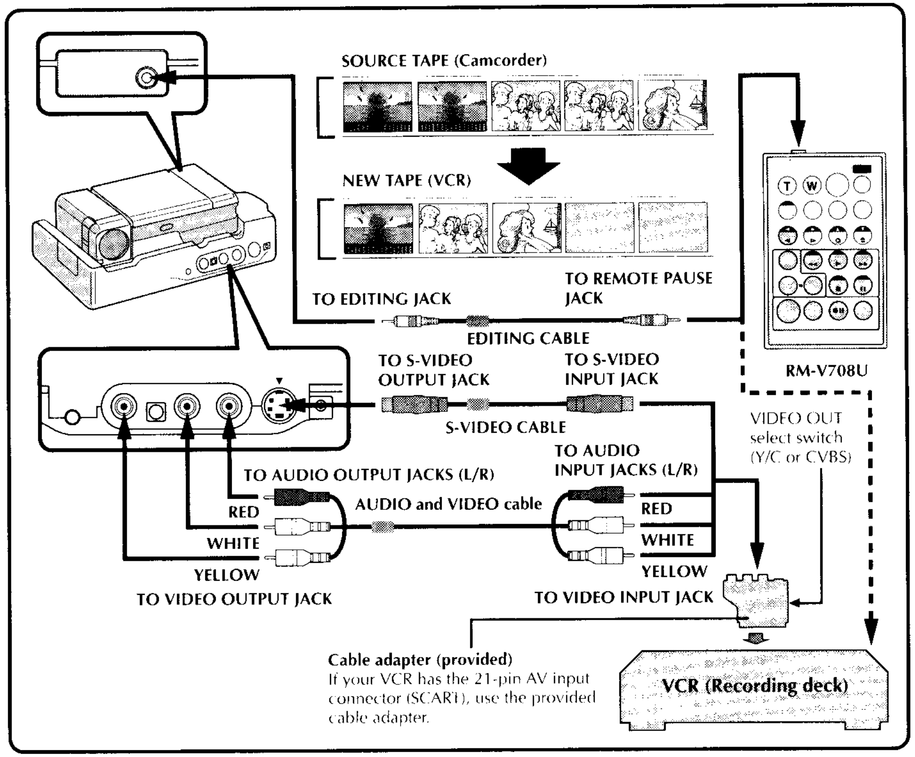
Press the appropriate brand setting button from the VCR Code List.

3 RELEASE SET BUTTON

- Turn on the VCR's power and make sure it is operating properly.
- When the remote control's battery expires, reset the brand after installing a fresh battery.

Random Assemble Editing

Using the RM-V708U remote control, you can use P.AE/Effects and make an original edited tape.


SOURCE TAPE (Camcorder)
NEW TAPE (VCR)
TO EDITING JACK
TO REMOTE PAUSE JACK
EDITING CABLE
TO S-VIDEO OUTPUT JACK
TO S-VIDEO INPUT JACK
S-VIDEO CABLE
RM-V708U
VIDEO OUT select switch (Y/C or CVBS)
TO AUDIO OUTPUT JACKS (L/R)
TO AUDIO INPUT JACKS (L/R)
AUDIO and VIDEO cable
RED
WHITE
YELLOW
RED
WHITE
YELLOW
TO VIDEO OUTPUT JACK
TO VIDEO INPUT JACK
VCR (Recording deck)

Cable adapter (provided)
If your VCR has the 21-pin AV input connector (SCART), use the provided cable adapter.

1 MAKE CONNECTIONS

Connect the Docking Station to your VCR and make sure that the playback picture and sound are available on the connected TV (☞ pg. 42).

NOTES:

- *When using a JVC VCR with a remote pause terminal, connect the editing jack on the Docking Station to the VCR's remote pause terminal using an editing cable.*
- *If the VCR has an S-Video input terminal, connect it using an S-Video cable.*
- *If the VCR has only one audio input terminal, connect it using a conversion plug.*
- *Set the VIDEO OUT select switch of connector as required: either to "CVBS" (with the direct VCR connection) or to "Y/C" (with the RGB converter connection).*

To Operate The VCR With The Remote Control . . .
..... press and hold **SHIFT**, then press the appropriate control button.

2 START SOURCE PLAYBACK

Press **PLAY** and then press **R.A. EDIT ON/OFF** on the remote control. Make sure to point the remote control at the Docking Station's sensor.

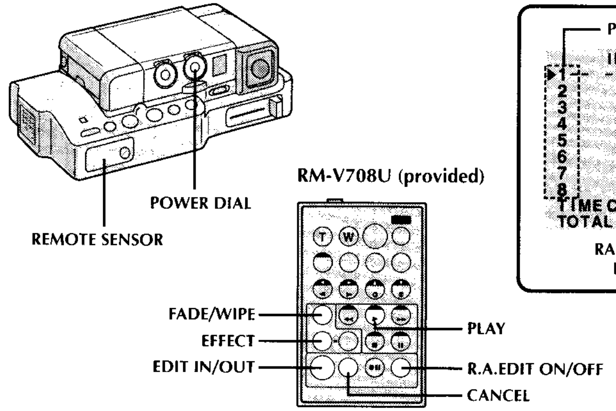
- The Random Assemble Editing Menu appears on the TV screen.
- If you're not using a Fade/Wipe at the PROGRAM 1 Edit-In point, go to step **4**.

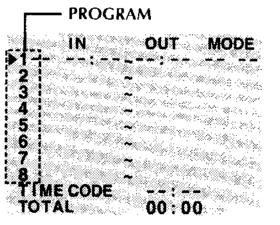
3 EXECUTE FADE/WIPE IN

Press **FADE/WIPE**.

- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- You can't use a Picture Wipe/Dissolve at the beginning of Program 1, or at the end of the last scene.

CONTINUED ON NEXT PAGE





```
        IN       OUT    MODE
▶1 -- --:--~--:-- -- --
 2            ~
 3            ~
 4            ~
 5            ~
 6            ~
 7            ~
 8            ~
TIME CODE      --:--
TOTAL          00:00
```

RANDOM ASSEMBLE EDITING MENU

4 SET EDIT-IN POINT

At the beginning of the scene, press **EDIT IN/OUT** on the remote control. The Edit In position appears in the viewfinder and on the connected TV.

5 SET EDIT-OUT POINT

At the end of the scene, press **EDIT IN/OUT**. The Edit Out position appears in the viewfinder and on the connected TV.

6 USE FADE WIPE ON SCENE TRANSITION

Press **FADE/WIPE**.

- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- If you select a Fade/Wipe effect for an Edit-Out point, the effect is automatically applied to the following Edit-In point.
- When you use Fade/Wipe effects, that time is included in the total time (this does not apply to Picture Wipe/Dissolve).

7 USE P.AE/EFFECT

Press **EFFECT**.

- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- You can use Classic Film, Monotone, Sepia, Strobe or Video Echo effects.

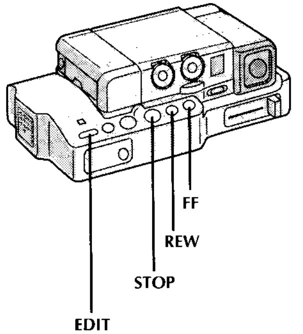
8 CONTINUE EDITING

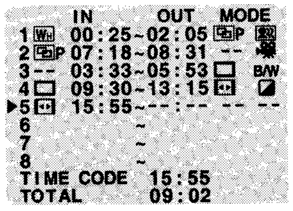
Repeat steps **4** – **7**.

- If you're not using Fade/Wipe or P.AE/Effects, repeat steps **4** and **5** only.

NOTES:

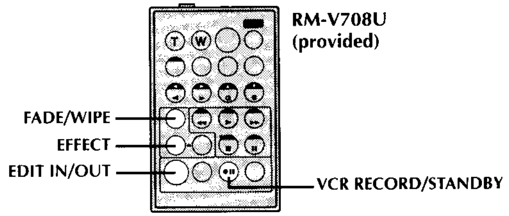
- *When choosing a scene, set Edit-In and Edit-Out points so there's a relatively large difference between them.*
- *If the search time for an in-point exceeds 5 minutes, the recording deck's Record-Standby mode will be cancelled and editing will not take place.*
- *If there are blank portions before or after the Edit-In and Edit-Out points, a blue-backed screen may be included in the edited version.*
- *Since time codes register time only as accurately as seconds, the time code total time may not match the total program time exactly.*
- *Turning off the camcorder's power erases all registered Edit-In and Edit-Out points.*
- *To use a P. AE/Effect, press **EFFECT** on the remote control repeatedly to cycle through the effects until the one you want is displayed.*
- *To change previously registered points, press **CANCEL** on the remote control. The registered points disappear, one at a time, from the most recently registered point.*
- *If you use Sepia or Monotone P.AE/Effects, you can't use the Dissolve or Black & White Fader. In this case the Dissolve or Black & White indicator begins blinking. Once the next Edit-In point is registered, the effect is turned off. To combine these effects, use Sepia or Monotone during recording, then use Dissolve or Black & White Fader during Random Assemble Editing.*





```
      IN       OUT    MODE
 1 WH 00:25~02:05 ▣P ▣
 2 ▣P 07:18~08:31 --  ▣
 3 -- 03:33~05:53 □   B/W
 4 □  09:30~13:15 ▣   ◪
▶5 ▣  15:55~--:-- --  --
 6          ~
 7          ~
 8          ~
TIME CODE    15:55
TOTAL        09:02
```

R.A.EDIT PROGRAM SCREEN



9 PREPARE SOURCE TAPE

Rewind the tape in the camcorder to the beginning of the scene you want to edit and press **PAUSE**.

10 ENGAGE VCR'S RECORD-PAUSE MODE

Point the remote control toward the VCR's infrared sensor and press **VCR RECORD/STANDBY**, or manually engage the VCR's Record-Pause mode.

11 START EDITING

Press **EDIT** on the Docking Station. Editing proceeds as programmed, right through to the end of the last registered scene.

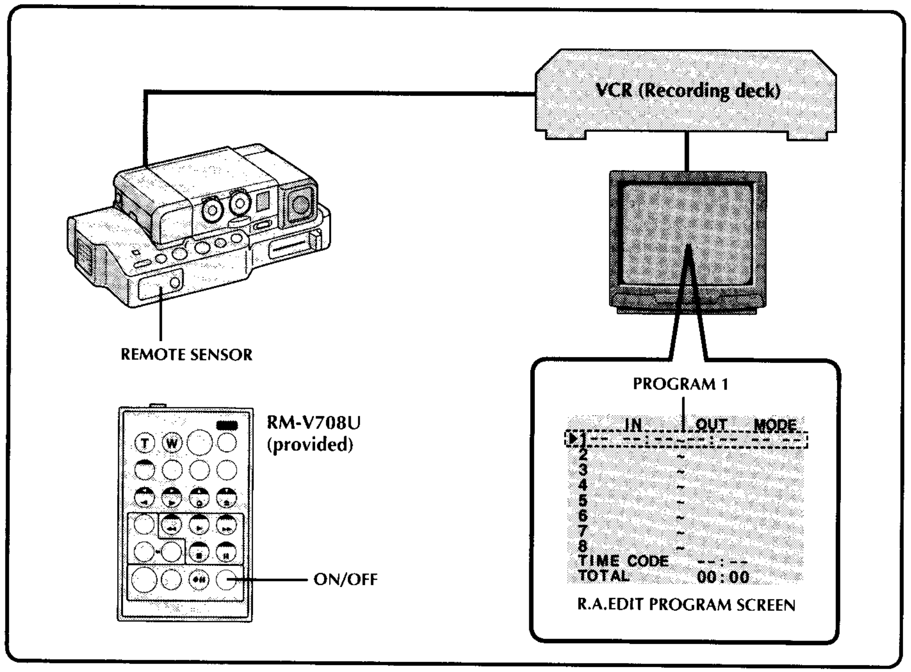
- If you selected a Fade/Wipe effect, it is active between selected scenes during dubbing.
- If you selected a P.AE/Effect, it is active during scenes while dubbing.
- When dubbing is complete, the camcorder enters the PAUSE mode, and the recorder enters its RECORD/STANDBY mode.
- If you don't register an Edit-Out point, the tape will be dubbed all the way to the end automatically.

12 STOP EDITING

Engage the STOP modes for the camcorder and the recorder.

NOTES:

- *During dubbing, make sure the remote control is pointed at the recorder's sensor, and that the path between the two is unobstructed.*
- *If, during dubbing, you press a button on the camcorder, its RECORD/STANDBY mode is automatically engaged.*
- *Random Assemble Editing may not function properly when using a tape including several duplicated Time Codes. (☞ pg. 26)*
- *When using MOSAIC FADER, black bars may appear at the bottom and left of the screen.*


VCR (Recording deck)
REMOTE SENSOR
RM-V708U
(provided)
ON/OFF
PROGRAM 1
IN OUT MODE
1
2
3
4
5
6
7
8
TIME CODE --:--
TOTAL 00:00
R.A.EDIT PROGRAM SCREEN

For More Accurate Editing

Some VCRs make the transition from RECORD/STANDBY to RECORD mode faster than others. Even if you begin editing for the camcorder and the VCR at exactly the same time, you may lose scenes you wanted, or find that you've recorded scenes you didn't want. For a cleanly edited tape, confirm and adjust the timing of the camcorder against your VCR.

1 PREPARE FOR R.A. EDIT

Play back the tape in the camcorder, then point the remote control at the Docking Station's remote sensor and press **R.A. EDIT ON/OFF**.

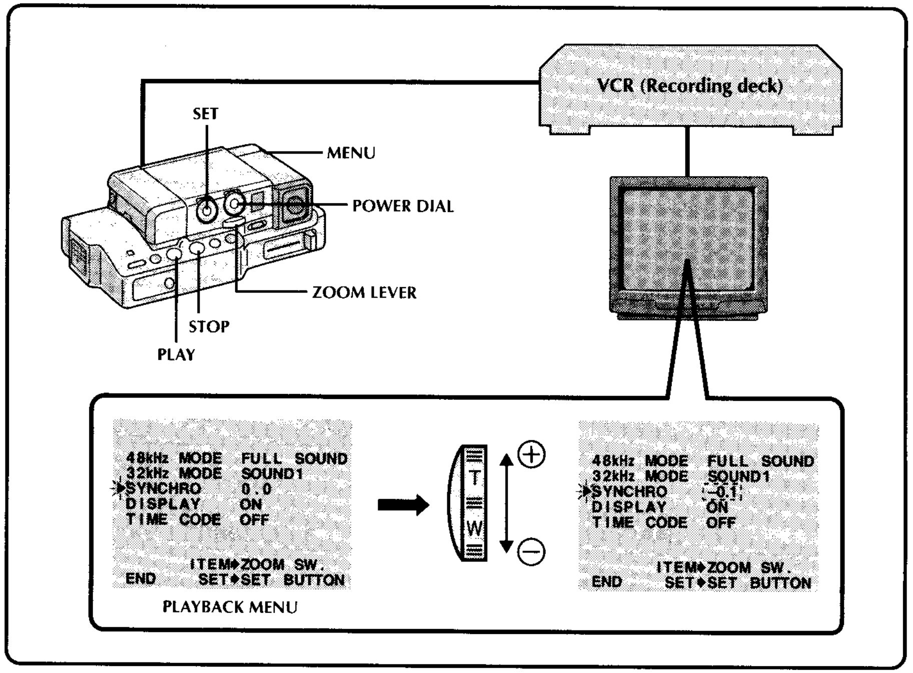
- "R.A. EDIT" appears on the TV screen.

2 CHOOSE A SCENE

Perform Random Assemble Editing on PROGRAM 1 only. In order to check VCR and camcorder timing, select the beginning of a scene transition as your Edit-In point.

3 PLAY BACK DUBBED SCENE

- If any images from the scene prior to the transition you chose for your Edit-In point were recorded, that means your VCR moves quickly from RECORD/STANDBY to RECORD.
- If the scene you tried to dub starts in progress, the VCR is slow to start recording.


VCR (Recording deck)
SET
MENU
POWER DIAL
ZOOM LEVER
STOP
PLAY
48kHz MODE FULL SOUND
32kHz MODE SOUND1
SYNCHRO 0.0
DISPLAY ON
TIME CODE OFF
END ITEM↕ZOOM SW.
SET↕SET BUTTON
PLAYBACK MENU
T
W
⊕
⊖
48kHz MODE FULL SOUND
32kHz MODE SOUND1
SYNCHRO -0.1
DISPLAY ON
TIME CODE OFF
END ITEM↕ZOOM SW.
SET↕SET BUTTON

4 SELECT OPERATION MODE

Set the Power Dial to "PLAY" and press **PLAY**.

5 ACCESS PLAYBACK MENU

Press **MENU**. The Playback Menu appears on the TV screen.

6 SELECT FUNCTION

Place the pointer next to "SYNCHRO" by sliding the Zoom Lever, then press **SET**. The pointer stops blinking, indicating that the function has been selected.

7 INPUT CORRECTION DATA

If the VCR is quick, slide the Zoom Lever toward "–"; if the VCR is slow, slide toward "+". The adjustment range is from –1.3 to +1.3 seconds, in 0.1-second increments.

8 CLOSE MENU

Press **SET** twice.

- Now perform Random Assemble Editing beginning with step **2** on page 51.

NOTE:

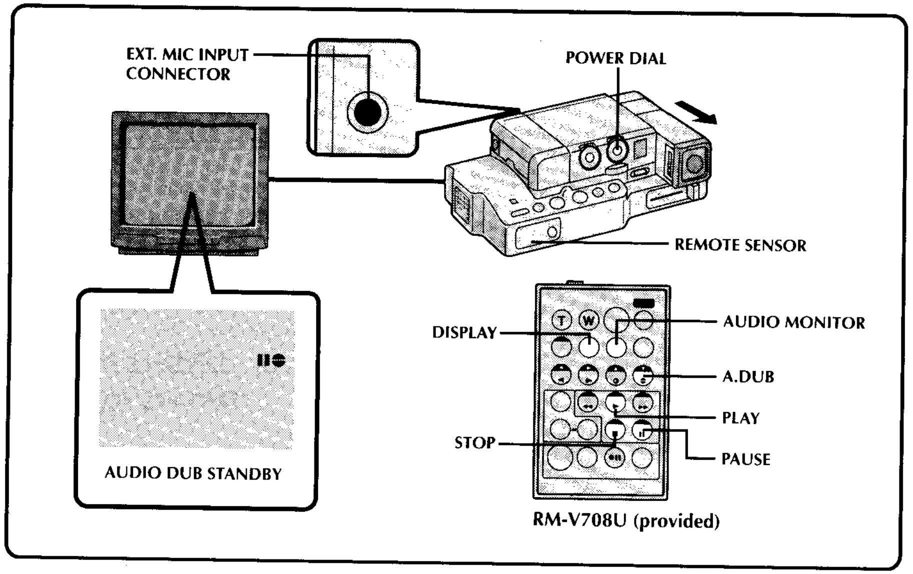
Depending on the recorder, there may be situations where the timing difference cannot be fully corrected.

Audio Dubbing

Using a tape recorded at 32 kHz, you can customize the soundtrack of a tape you've recorded.

NOTE:

Audio Dubbing is not possible on a tape recorded at 48 kHz.



1 FIND EDIT-IN POINT

Play back the tape to locate the point where editing will start, then press **PAUSE**.

2 CONNECT EXTERNAL MICROPHONE

Connect an optional stereo microphone. Then while holding **A. DUB** on the remote control, press **PAUSE**.

- Pull out the viewfinder and "**II⊜**" appears.
- Press **DISPLAY** on the remote control if sending the image to a connected TV.

3 BEGIN DUBBING

Press **PLAY**, then begin "narrating" using the external microphone.

4 PAUSE DURING DUBBING

Press **PAUSE**.

5 STOP DUBBING

Press **STOP**.

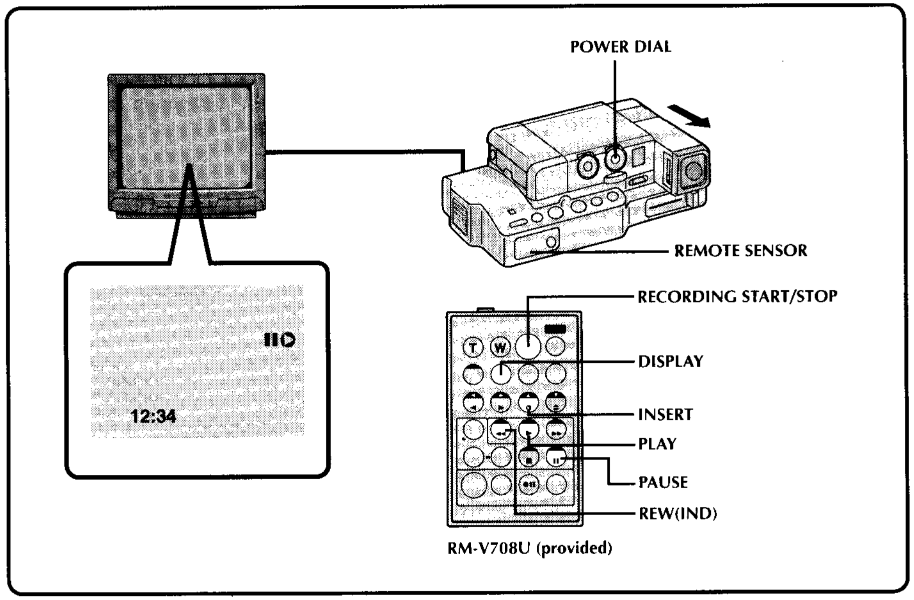
NOTES:

- *When editing onto a tape that was recorded at 32 kHz, the old and new soundtracks are recorded separately.*
- *To select the desired sound for playback, press **AUDIO MONITOR** on the remote control.*
- *If you dub onto a blank space on the tape, the sound may be disrupted. Make sure you only edit recorded areas.*
- *If feedback or howling occurs, move the Docking Station so the camcorder's microphone is away from the TV, or turn down the TV's volume.*
- *If you change from 32 kHz to 48 kHz in mid-recording and then use the tape for Audio Dubbing, it is not effective from the point where 48 kHz recording began.*

RECORDING SOUND	DISPLAY	OUTPUT SOUND
32 kHz	FULL SOUND	Original and new tracks are combined and output in stereo.
	SOUND 1	Original track is output on both "L" and "R" channels in stereo.
	SOUND 2	New track is output on both "L" and "R" channels in stereo.

Insert Editing

You can insert snapshots and other scenes in previously recorded footage.



1 FIND EDIT OUT POINT

Confirm the time code at this point. (☞ pg. 45)

2 FIND EDIT IN POINT

Press **REW** until the point is located, then press PAUSE.

3 PREPARE FOR INSERT EDITING

Press and hold **INSERT** on the remote control, then press **PAUSE**. "**IIO**" and the Time Code (min.:sec.) appear in the viewfinder.

NOTE:

*To see the on-screen characters on a connected TV, press **DISPLAY** on the remote control. (☞ pg. 49)*

4 START RECORDING

Press **RECORDING START/STOP** to begin editing.

- Confirm the insert at the time code you checked in step **1**.

5 PAUSE DURING EDITING

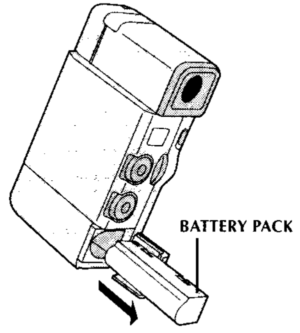
Press **RECORDING START/STOP**. Press again to resume editing.

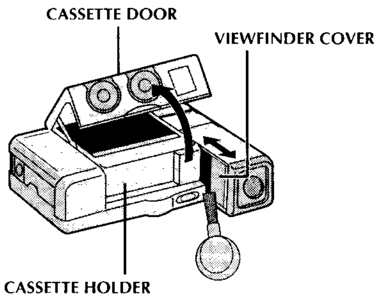
6 STOP EDITING

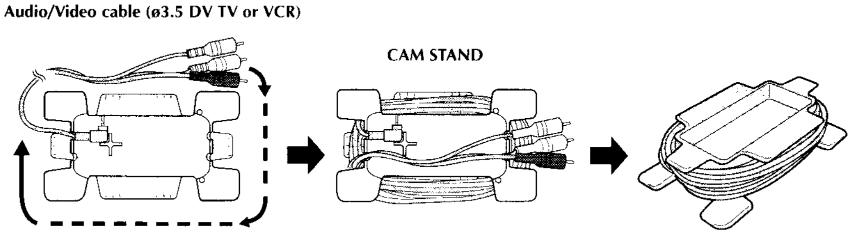
Press **RECORDING START/STOP**, then press **STOP**.

NOTES:

- *When performing Insert Editing, the tape's Video Area and Sub-Code Area (☞ pg. 4) are rewritten, so the date and time information changes.*
- *If you perform Insert Editing onto a blank space on the tape, the audio and video may be disrupted. Make sure you only edit recorded areas.*


BATTERY PACK


CASSETTE DOOR
VIEWFINDER COVER
CASSETTE HOLDER


Audio/Video cable (ø3.5 DV TV or VCR)
CAM STAND

Cleaning The Camcorder

1 CLEAN EXTERIOR
Wipe gently with a soft cloth.

2 CLEAN LENS
Blow it with a blower brush, then wipe gently with lens cleaning paper.

3 REMOVE POWER SUPPLY
Remove the battery pack or disconnect the AC Power Adapter/Charger.

4 OPEN CASSETTE DOOR
There is no power to the camcorder, so the cassette holder won't open.

5 PULL OUT VIEWFINDER
Pull out the viewfinder and slide its cover open.

6 CLEAN VIEWFINDER
Remove dust using a blower brush.

7 RESET VIEWFINDER
Close the viewfinder's cover and push the viewfinder back in.

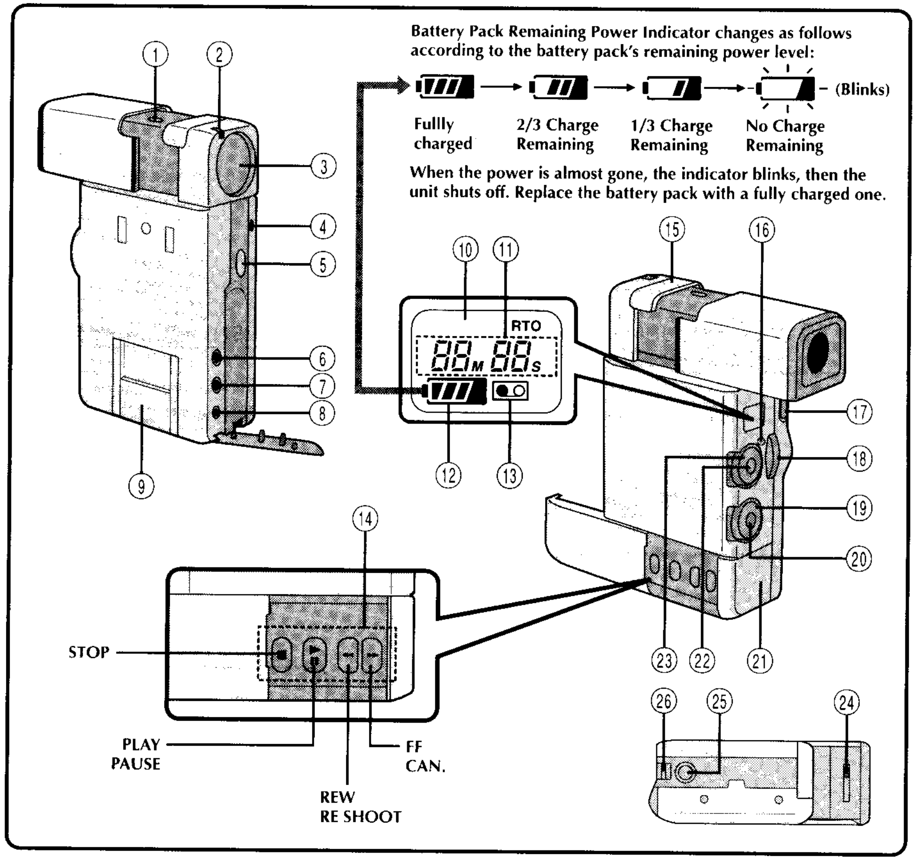
8 CLOSE CASSETTE DOOR

Audio/Video Cable And CAM Stand

1 WRAP CABLE AROUND STAND
Position the plug of the Audio/Video cable (ø3.5 DV TV or VCR) as shown in the illustration, then wrap the cable around the stand in the direction indicated.

2 CONFIRM PLUG POSITION
Make sure the white, red and yelow plugs are positioned as shown in the illustration.

Main Unit


①
②
③
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㉑
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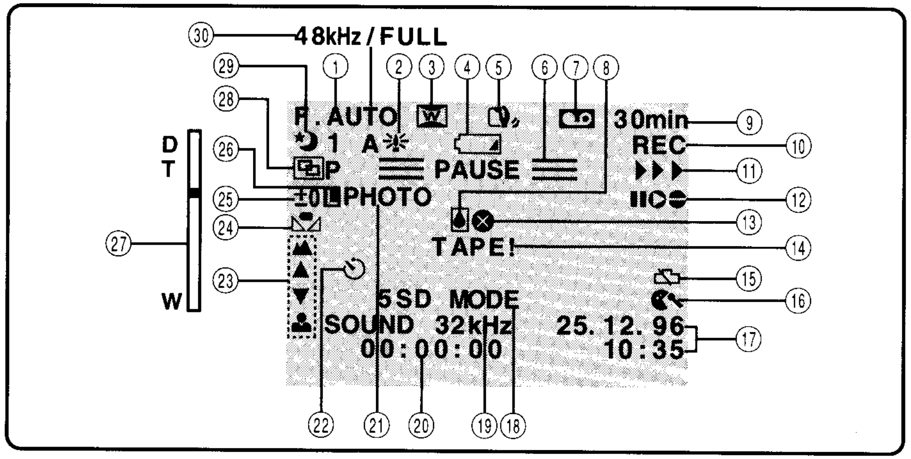
㉓
㉔
㉕
㉖
STOP
PLAY
PAUSE
REW
RE SHOOT
FF
CAN.
(Blinks)
Fullly charged
2/3 Charge Remaining
1/3 Charge Remaining
No Charge Remaining

Battery Pack Remaining Power Indicator changes as follows according to the battery pack's remaining power level:

When the power is almost gone, the indicator blinks, then the unit shuts off. Replace the battery pack with a fully charged one.

① **MENU Button** (☞ pg. 16)
② **White Balance Sensor**
* Take care not to cover the sensor with your hand while shooting.
③ **Lens** (☞ pg. 7)
④ **Tally Lamp**
The tally lamp lights while recording is in progress.
⑤ **SNAPSHOT Button** (☞ pg. 22)
⑥ **Ext. Mic Input Jack** (☞ pg. 7)
⑦ **AV Output Jack** (☞ pg. 7)
⑧ **DC Input Jack** (☞ pg. 7)
⑨ **Multi Connector**
* Located inside the cover. Connect to the Docking Station's multi connector. To avoid malfunction, do not touch this connector or force the cover open.
⑩ **LCD Display Window**
⑪ **Remaining Tape Time (during recording) Time Code (during playback)**
⑫ **Remaining Battery Power Indicator** (☞ pg. 59)
⑬ **"No Tape Loaded" Indicator**
⑭ **Tape Advance Buttons** (☞ pg. 21)
⑮ **Stereo Microphone**
⑯ **Power Lamp** (☞ pg. 20)
⑰ **OPEN/EJECT Switch** (☞ pg. 12)
⑱ **Zoom Lever** (☞ pg. 11)
⑲ **Select Dial** (☞ pg. 15)
⑳ **SET Button** (☞ pg. 16)
㉑ **Battery Cover** (☞ pg. 9)
㉒ **RECORDING START/STOP Button** (☞ pg. 20)
㉓ **Power Dial** (☞ pg. 11)
㉔ **Diopter Adjust Lever** (☞ pg. 13)
㉕ **Tripod Mounting Socket**
㉖ **Hand Strap Eyelet** (☞ pg. 13)

Viewfinder Indications

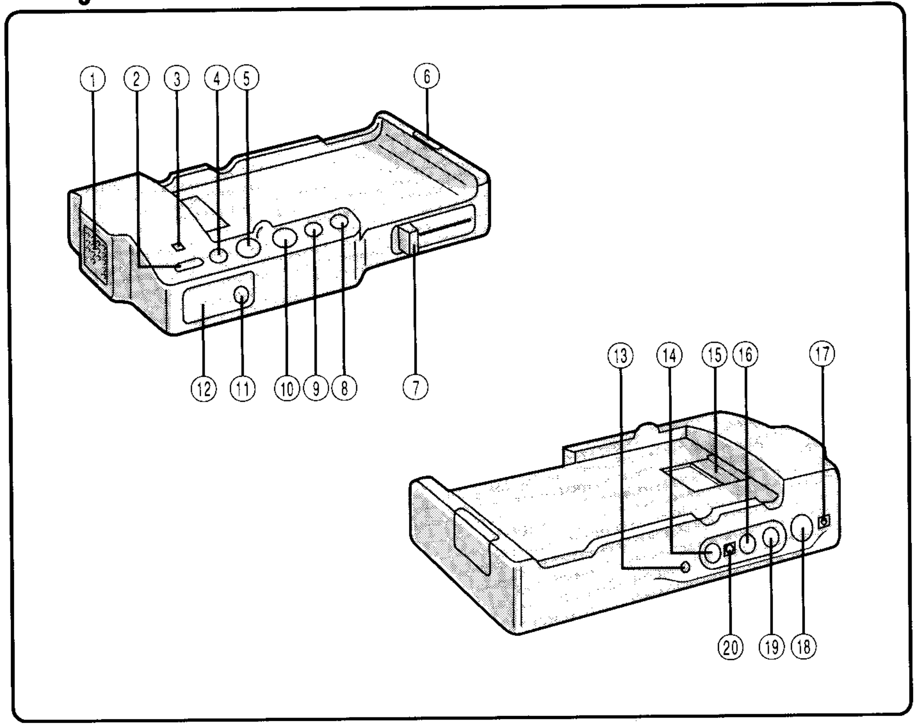


Recording And Playback

No.	NAME & FUNCTION
①	**Select Dial Position** (☞ pg. 15)
②	**GAIN UP Indicator** (☞ pg. 17)
③	**Wide Mode** (☞ pg. 17)
④	**"Battery Low" Indicator** Appears and blinks when battery charge is low.
⑤	**Digital Image Stabilizer Indicator** (☞ pg. 17)
⑥	**Record-Standby Indicator** (☞ pg. 24)
⑦	**"Cassette Loaded" Indicator** Appears when no tape is loaded, or when you try to record with the record safety tab set to "SAVE".
⑧	**Condensation Warning** When this indicator appears, all functions are disabled. Turn the unit off for a few hours, and when you turn it on again the indicator should disappear.
⑨	**Tape Remaining Indicator** (☞ pg. 21)
⑩	**Recording Indicator** (☞ pg. 20)
⑪	**"Tape Running" Indicator** (☞ pg. 20)
⑫	**Audio Dubbing/Insert Editing Mode Indicator** (☞ pgs. 56, 57)
⑬	**Head clog warning** At the start of recording, appears and blinks if dirt is detected on heads. Stop recording and clean the heads using the Cleaning Cassette. (☞ pg. 63)

No.	NAME & FUNCTION
⑭	**"No Tape Loaded" Indicator** Appears for 15 seconds after power is turned on if there's no tape loaded.
⑮	**Clock Battery Warning** Appears when the clock (lithium) battery is not in place or exhausted. For inserting or replacing the clock battery, refer to page 10.
⑯	**Wind Cut Indicator** (☞ pg. 19)
⑰	**Date/Time Display** (☞ pg. 11)
⑱	**Recording Mode Indicator** (☞ pg. 24)
⑲	**Sound Mode Display** (☞ pg. 19)
⑳	**Time Code Display** (☞ pg. 26)
㉑	**Snapshot Indicator** (☞ pg. 22)
㉒	**Self-Timer Indicator** (☞ pg. 25)
㉓	**Focus Indicators** (☞ pg. 40)
㉔	**White Balance Indicator** (☞ pg. 38)
㉕	**Exposure Indicator** (☞ pg. 36)
㉖	**Iris Lock Indicator** (☞ pg. 37)
㉗	**Zoom Level Indicator** (☞ pg. 23)
㉘	**FADE/WIPE Indicator** (☞ pg. 28)
㉙	**P.AE/Effect Indicator** (☞ pg. 33)
㉚	**Playback Sound Mode Display** (☞ pg. 45)
—	**"Tape End" Indicator** (☞ pg. 21)
—	**An error number (E01, etc.) appears in the viewfinder** (☞ pg. 66) Consult your nearest JVC dealer.

Docking Station

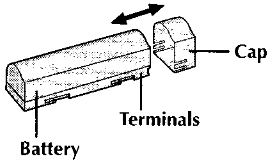


① **Fan**
Comes on automatically when camcorder is attached; serves to cool the unit down. Take care not to interfere with the blades.

② **EDIT Button** .... ☞ pg. 53
③ **CHARGE Indicator** .... ☞ pg. 41
④ **PAUSE Button**
⑤ **PLAY Button** .... ☞ pg. 47
⑥ **RELEASE Button** .... ☞ pg. 41
⑦ **Lock Lever** .... ☞ pg. 41
⑧ **Fast-Forward (FF) Button**
⑨ **Rewind (REW) Button** .... ☞ pg. 53
⑩ **STOP Button** .... ☞ pg. 49
⑪ **EDIT Jack** .... ☞ pg. 51
⑫ **Remote Control Sensor** .... ☞ pg. 47
⑬ **JLIP Jack (Joint Level Interface Protocol)**
In the future, it will be used to connect the camcorder to a device such as a personal computer.
⑭ **Video Output Jack** .... ☞ pg. 42
⑮ **Multi Jack** .... ☞ pg. 41
⑯ **Audio Output Jack [L]** .... ☞ pg. 42
⑰ **DC Input Jack** .... ☞ pg. 42
⑱ **S-Video Output Jack** .... ☞ pg. 42
⑲ **Audio Output Jack [R]** .... ☞ pg. 42
⑳ **DC Output Jack**
For future use.

Battery Packs

The supplied battery pack is a lithium-ion battery. Before using the supplied battery pack or an optional battery pack, be sure to read the following cautions:



1. To avoid hazard . . .

.... **do not** burn.
.... **do not** short-circuit the terminals.
.... **do not** modify or disassemble.
.... use only specified chargers.

2. To prevent damage and prolong service life . . .

.... **do not** subject to unnecessary shock.
.... charge in an environment where temperatures are within the tolerances shown in the chart below. This is a chemical reaction type battery—cooler temperatures impede chemical reaction, while warmer temperatures can prevent complete charging.
.... store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
.... avoid prolonged uncharged storage.
.... remove from charger or powered unit when not in use, as some machines use current even when switched off.

3. To prevent damage to the camcorder . . .

.... replace the battery pack when it begins to deliver less recording time per charge.

NOTE:

It is normal for the battery pack to be warm after charging, or after use.

Temperature Ranges

Charging	10°C to 35°C
Operation	0°C to 40°C
Storage	–10°C to 30°C

NOTES:

- *Recharging time is based on room temperature of 20°C.*
- *The lower the temperature, the longer recharging takes.*

Cassettes

To properly use and store your cassettes, be sure to read the following cautions:

1. During use . . .

.... make sure the cassette bears the Mini DV mark.
.... be aware that recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
.... make sure the cassette is positioned properly when inserting.
.... do not load and unload the cassette repeatedly without allowing the tape to run at all. This slackens the tape and can result in damage.
.... do not open the front tape cover. This exposes the tape to fingerprints and dust.

2. Store cassettes . . .

.... away from heaters or other heat sources.
.... out of direct sunlight.
.... where they won't be subject to unnecessary shock or vibration.
.... where they won't be exposed to strong magnetic fields (such as those generated by motors, transformers or magnets).
.... vertically, in their original cases.

Main Unit

1. For safety, DO NOT . . .

.... open the camcorder's chassis.
.... disassemble or modify the unit.
.... short-circuit the terminals of the battery pack. Keep it away from metallic objects when not in use.
.... allow inflammables, water or metallic objects to enter the unit.
.... remove the battery pack or disconnect the power supply while the power is on.
.... leave the battery pack attached when the camcorder is not in use.

2. Avoid using the unit . . .

.... in places subject to excessive humidity or dust.
.... in places subject to soot or steam such as near a cooking stove.
.... in places subject to excessive shock or vibration.
.... near a television set.
.... near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
.... in places subject to extremely high (over 40°C) or extremely low (under 0°C) temperatures.

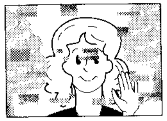
3. DO NOT leave the unit . . .

.... in places of over 50°C.
.... in places where humidity is extremely low (below 35%) or extremely high (above 80%).
.... in direct sunlight.
.... in a closed car in summer.
.... near a heater.

4. To protect the unit, DO NOT . . .

.... allow it to become wet.
.... drop the unit or strike it against hard objects.
.... subject it to shock or excessive vibration during transportation.
.... keep the lens directed at extremely bright objects for long periods.
.... direct the eyepiece of the viewfinder at the sun.
.... carry it by holding the viewfinder.
.... swing it excessively when using the shoulder strap.

5. Dirty heads can cause the folowing problems:



- No picture during playback.
- Blocks of noise appear during playback.
- During recording, the Head Clog Warning indicator "⊗" appears in the viewfinder.

In such cases, use the optional Cleaning Cassette M-DV2CL. Insert it and play back for approximately 20 seconds. After this time the camcorder stops automatically. If the cassette is used more than once consecutively, damage to the video heads may result.
If, after using the Cleaning Cassette, the problems still exist, consult your nearest JVC dealer.

About moisture condensation . . .

- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass' outer surface. This same phenomenon occurs on the head drum of a camcorder when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the camcorder itself.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and clock battery; and then re-connect it and proceed as usual from the beginning.

If, after following the steps in the chart below, the problem still exists, please consult your nearest JVC dealer or Technical Service Center.

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
1. No power is supplied.	***1.*** • The power is not connected properly. • The battery is dead. • The viewfinder hasn't been pulled out.	***1.*** • Connect the AC Adapter securely (☞ pg. 7). • Replace the dead battery with a fully charged one (☞ pg. 9). • Pull the viewfinder out.
2. Recording cannot be performed.	***2.*** • The tape's record safety tab is set to "SAVE". • The Power Dial is set to "PLAY".	***2.*** • Set the tape's record safety tab to "REC" (☞ pg. 12). • Set the Power Dial to "REC".
3. There is no playback picture.	***3.*** • The camcorder is not getting power, or some other malfunction exists. • The lens cover is closed.	***3.*** • Turn the camcorder's power off and on again. • Pull out the viewfinder to open the lens cover.
4. Some functions are not available.	***4.*** • The Select Dial is set to "AUTO". • The Power Dial is set to "5S".	***4.*** • Set the Select Dial to any position except "AUTO". • Set the Power Dial to any position except "5S".
5. The focus does not adjust automatically.	***5.*** • Focus is set to "MANUAL". • The recording was done in a dark place, or the contrast was low. • The diopter is not properly adjusted. • The lens is dirty or covered with condensation.	***5.*** • Set Focus to "AUTO" (☞ pg. 40). • Adjust the diopter (☞ pg. 13). • Clean the lens and check the focus again.
6. The cassette won't load properly.	***6.*** • The cassette is in the wrong position. • The battery's charge is low.	***6.*** • Set it in the right position. • Install a fully charged battery.
7. Play, Rewind and Fast-Forward functions don't work.	***7.*** • The Power Dial is not set to "PLAY". • The cassette's cover is open.	***7.*** • Set the Power Dial to "PLAY" (☞ pg. 46).
8. The tape is moving, but there's no picture.	***8.*** • Your TV has AV input terminals, but is not set to its VIDEO mode.	***8.*** • Set the TV to the mode or channel appropriate for video playback.
9. When shooting a subject illuminated by bright light, vertical lines appear.	***9.*** • This is a result of exceedingly high contrast, and is not a malfunction.	***9.*** ———
10. In the 5-Second mode, recording ends before 5 seconds have elapsed.	***10.*** • The 5-Second mode in the System Menu is set to "ANIMATION".	***10.*** • Select "5S" or "5SD" in the System Menu (☞ pgs. 18, 19).
11. Even though "GAIN UP" was set to "**A☀**", scenes shot in dark places are not brightened.	***11.*** • Depending on the light source, the 1/30 shutter speed may be deactivated in order to reduce the shakiness in the picture.	***11.*** ———
12. Snapshot mode cannot be used.	***12.*** • P.AE/Effects Sepia, Monotone or Slow (Slow Shutter) are activated. • The Squeeze mode is selected. • The Cinema mode is engaged, disabling the white border.	***12.*** • Disengage them. • Disengage the Squeeze mode. • Disengage the Cinema mode.
13. Digital Zoom doesn't work.	***13.*** • 10x optical zoom is selected. • The Video Echo effect is activated. • Picture Wipe or Dissolve are being used in a scene transition. • 5-Second recording was done with the Power Dial set to "5S", and with "5SD" selected in the System Menu. • Snapshot Dissolve was attempted during Digital Zoom.	***13.*** • Turn off the Video Echo effect. • Wait until the Picture Wipe or Dissolve effects are completed. • Change the setting of either the System Menu or the Power Dial. • Do not attempt to take a Snapshot when performing Digital Zoom.
14. P.AE/Effects and Fade/Wipe Effects don't work.	***14.*** • The Select Dial is set to "AUTO". • The Power Dial is set to "5S".	***14.*** • Set the Select Dial to "MANUAL". • Change the setting of the Power Dial.
15. The Black & White Fader doesn't work.	***15.*** • The Sepia or Monotone effects are activated.	***15.*** • Turn off Sepia and Monotone.
16. The Dissolve function doesn't work.	***16.*** • P.AE/Effects Sepia, Monotone or Slow are activated. • The Squeeze mode is selected.	***16.*** • Turn off Sepia and Monotone before adding Dissolve to a scene transition. • Make sure that the Squeeze mode in the Recording Menu is set to "OFF".
17. The Picture Wipe and Dissolve functions don't work.	***17.*** • The last selected editing scene is ending. • At the end of the last selected scene for editing, the Power Dial was set to "OFF". • The power is off. • The previously selected P.AE/Effect was changed after the last selected scene for editing was registered. • The P.AE/Effects in the Recording Menu were exchanged after the last selected scene for editing was registered.	***17.*** • Select Picture Wipe or Dissolve before beginning recording. The effects are then automatically activated. • Do not turn off the camcorder's power after setting Edit-In and Edit-Out points, as they will all be erased. • The camcorder automatically shuts off after 5 minutes have elapsed in the RECORD/STANDBY mode. Make sure you continue operations within 5 minutes after engaging RECORD/STANDBY. • Make sure you have selected the P.AE/Effects you want before starting editing. • Exchanging P.AE/Effects may deactivate the effect(s) you selected. Once you've selected an effect, do not perform an exchange before beginning editing. If you do, make sure you don't replace the effect(s) you selected.

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
18. The Picture Wipe function doesn't work.	**18.** • The Slow (Slow Shutter) effect is activated. • The Squeeze or Cinema mode is selected in the Recording Menu.	**18.** • Make sure the Squeeze mode, Cinema mode, or Slow effect is not activated when preparing to use the Picture Wipe function.
19. Even when Slow (Slow Shutter) isn't selected, the image looks like it is activated.	**19.** • When shooting in the dark with GAIN UP set to **A**☀, the unit becomes highly sensitive to light and the image takes on an effect similar to Slow (Slow Shutter).	**19.** • If you want the lighting to look more natural, set GAIN UP to "AGC" or "OFF" in the Recording Menu.
20. The Video Echo effect doesn't work.	**20.** • The Picture Wipe or Dissolve functions are in use. • The Squeeze mode is selected in the Recording Menu. • Snapshot Dissolve is in progress. • A Fade-In or Fade-Out is in progress (White Fader, Black Fader or Black & White Fader).	**20.** • Make sure the Squeeze mode is set to "OFF". • Do not try to use the Video Echo effect during a Fade-In or Fade-Out.
21. There is no strobe when the Classic Film and Strobe effects are activated.	**21.** • The Picture Wipe or Dissolve functions are in use. • Snapshot Dissolve is in progress.	**21.** • Do not try to use the Classic Film or Strobe effects during a scene transition.
22. White Balance cannot be activated.	**22.** • The Sepia or Monotone effects are activated. • Snapshot Dissolve is in progress.	**22.** • Turn off Sepia or Monotone before setting White Balance. • Wait until the Snapshot Dissolve is finished before setting White Balance.
23. The viewfinder indications blink.	**23.** • Certain FADE/WIPE, P.AE/ Effects and other functions that cannot be used together are selected at the same time.	**23.** • Re-read the sections covering FADE/WIPE and P.AE/Effects (☞ pg. 28, 33).
24. There are disturbances in audio and video.	**24.** • If Audio Dubbing or Insert Editing have been performed repeatedly on the same portion of the tape, disturbance to the sound and picture may result.	**24.** • Use a new, or infrequently used, tape for Audio Dubbing and Insert Editing.
25. An unusual mark appears in the viewfinder.	**25.** ———	**25.** • Check the section of the manual that explains viewfinder indications (☞ pg. 60).
26. An error indication (E01 — E07) appears in the viewfinder.	**26.** • A malfunction of some kind has occurred. In this case the camcorder's functions become unusable.	**26.** • Remove the tape or the battery pack, and wait a few minutes for the indication to clear. When it does, you can resume using the camcorder. If the indication remains, please consult your nearest JVC dealer or Technical Service Center.

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SECTION 1
DISASSEMBLY

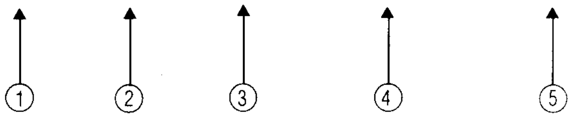
1.1 SERVICE CAUTIONS

1.1.1 Precautions

1. Remove the power supply unit before mounting and soldering of parts.
2. Be sure to disconnect and connect the connector so carefully as not to cause any damage to the wire.
3. Whenever any chip parts (particularly IC parts) are replaced, the soldered portion should be removed sufficiently in advance (to prevent separation of the pattern).

1.1.2 How to read the disassembly and assembly

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	VF assembly	C1	1(S1),1 (L1), 4(L2)	<NOTE 1> <NOTE 2>
②	Cover assembly	C2	1(S2), 1(L3)	<NOTE3>



① : The disassembly steps are indicated. Assembly should be performed according to the opposite steps. Moreover, this number corresponds to the number in the disassembly diagram.

② : The name of the disassembly/assembly parts is indicated.

③ : The disassembly diagram No. and the section to which the parts belong are indicated as follows:

C = Cabinet
CA = Camera
D = Deck

④ : The screws, washers, springs and other parts and points which should be removed during disassembly and assembly are as shown below:

P = Spring
W = Washer
S = Screw
*Lock (L), soldering (SD), shield, connector, etc.

[Example] • Remove (W1) = Washer W1.
• Remove (SD1) = Soldering at the point SD1.
• Disconnector the connector (A) = Connector (A).

⑤ : Precautions during Disassembly/Assembly

1.1.3 Connection of the wires

1. FFC connector

Remove the lock while pulling both ends of the connector in the arrow direction, and disconnect the wire.

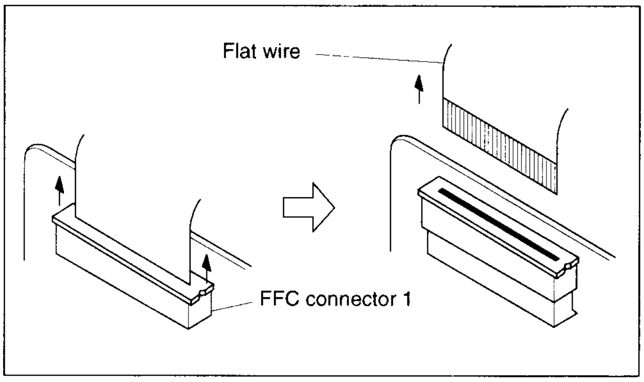


Fig. 1-1-1 FFC connector 1

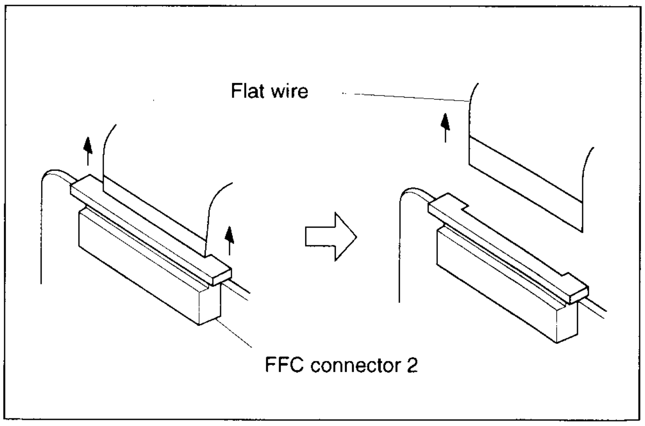


Fig. 1-1-2 FFC connector 2

2. Wire trap

While pressing the wire trap with the tip of a minus screw driver, disconnect the parallel wire.

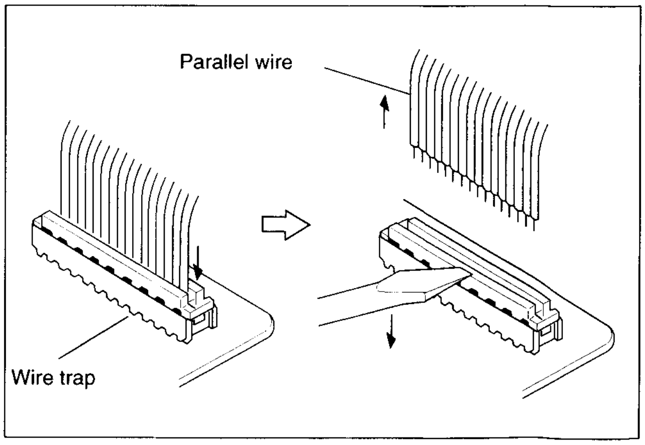


Fig. 1-1-3 Wire trap

1.1.4 Main screws to deal with disassembly/assembly

Table 1-1-1 below shows the symbols, shapes and parts numbers of the screws to be used for disassembly and assembly of the cabinet parts and P.C. board assembly. For assembly, be sure to use correct screws according to the table below:

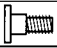
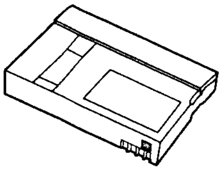
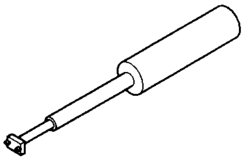
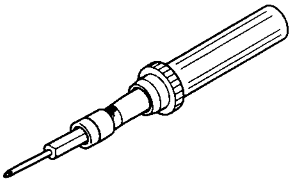
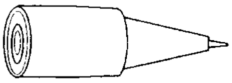
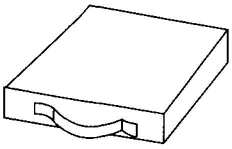
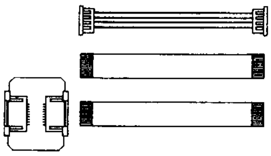
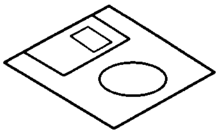
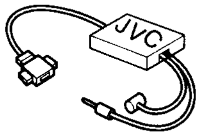
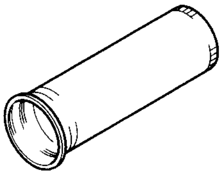
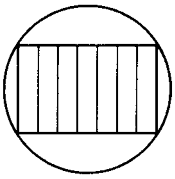
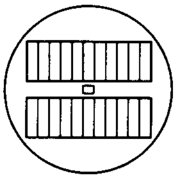
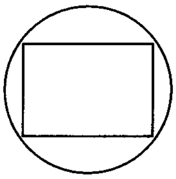
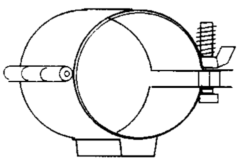
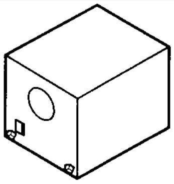
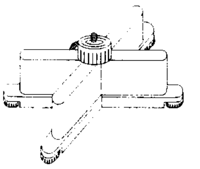
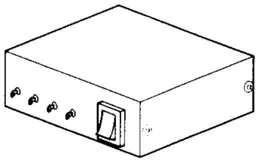
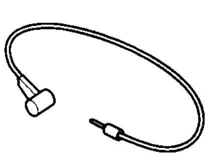
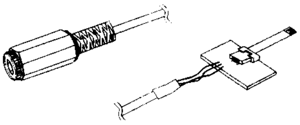
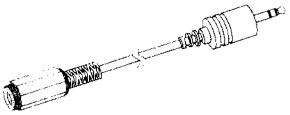
Symbol	Shape	Parts No.
S1		SPSJ1750M
S2		SPSJ1740R
S3		SPSK1720Z
S4		SPSK1730R
S5		SPSK1470R
S6		SPSK1725M
S7		SPSJ1730M
S8		YQ43893-4
S9		YQM30060-7
S10		SPSK1420Z
S11		SPSJ1740M
S12		YQM30060-8

Table 1-1-1

1.2 SPECIAL TEST EQUIPMENT AND TOOLS REQUIRED FOR ADJUSTMENTS

1 CHECK TAPE YTU94093B	2 GUIDE DRIVER YTU94085
	
3 TORQUE DRIVER YTU94088	4 PROBE CHIP YTU94083
	
5 RESOLDERING KIT YTU96016C	6 PATCH CORD YTU93084A
	

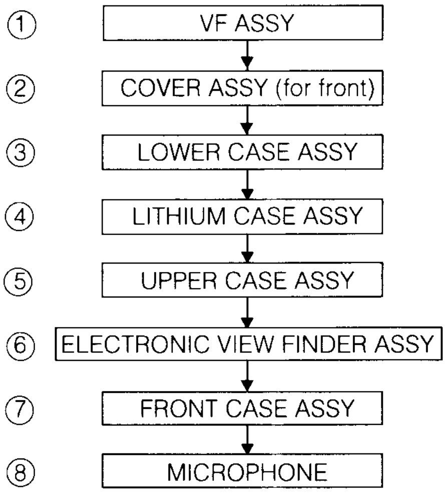
7 SERVICE SUPPORT SYSTEM SOFTWARE YTU94057-16	8 INTERFACE CABLE YTU93063
	
9 INF ADJUSTMENT LENS YTU92001B	10 COLOUR BAR CHART YTU92001-051
	
11 GRAY SCALE CHART YTU92001-052	12 WHITE BALANCE CHART YTU92001-053
	
13 INF LENS HOLDER YTU94087	14 LIGHT BOX YTU93072A
	
15 CAMERA STAND YTU93079	16 ERROR RATE YTU93083
	
17 ADAPTER CABLE YTU94066	18 COMMUNICATION CONVERTER CABLE YTU93085A
	
19 JLIP CONVERSION CABLE YTU94084A	
	

1. CHECK TAPE
   Colour bar signal is employed for interchangeablility check and adjustments.
2. GUIDE DRIVER
   Turns the guide roller for adjusting PB envelope.
3. TORQUE DRIVER
   Turns the screws of the Mechanism assembly.
4. PROBE CHIP
   Attach in the oscilloscope probe for checking the voltage and waveform of IC's pins.
5. RESOLDERING KIT
   Use for replacing surface mounted components.
6. PATCH CORD
   Connect from board to board for repair.
7. SERVICE SUPPORT SYSTEM SOFTWARE
   Use for adjusting the optical, camera and deck section.
8. INTERFACE CABLE
   Use for adjusting the optical, camera and deck section.
9. INF ADJUSTMENT LENS
   Use for adjusting the optical and camera section.
10. COLOUR BAR CHART
    Use for adjusting the camera section.
11. GRAY SCALE CHART
    Use for adjusting the camera section.
12. WHITE BALANCE CHART
    Use for adjusting the camera section (white balance).
13. INF LENS HOLDER
    Use this lens holder together with the camera stand for setting the INF adjustment lens.
14. LIGHT BOX
    Use for adjusting the camera section.
15. CAMERA STAND
    Use this stand together with the INF lens holder for setting the INF adjustment lens.
16. ERROR RATE
    Connect the frequency counter and read the error correction rates.
17. ADAPTER CABLE
    Use for adjusting the optical, camera and deck section.
18. COMMUNICATION CONVERTER CABLE
    Use for adjusting the optical, camera and deck section of single unit.
19. JLIP CONVERSION CABLE
    Use for adjusting the optical, camera and deck section of using the docking station.

1.3 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.3.1 Disassembly flow chart

The following flow chart indicates the steps of disassembling the cabinet parts. The cabinet parts should be assembled according to the opposite steps:



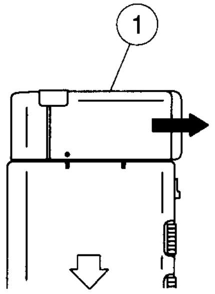
1.3.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	VF ASSEMBLY	C1	1(S1), 1(L1) 4(L2)	<NOTE 1> <NOTE 2>
②	COVER ASSEMBLY (for front)	C2	1(S2), 1(L3)	<NOTE 3>
③	LOWER CASE ASSEMBLY	C3-1	2(S1), 2(S2), 1(S3), 3(S4) 2(S5), 1(S6), 2(L4), (L5) (L6)	<NOTE 4>
④	LITHIUM CASE ASSEMBLY	C4	(L7)	-
⑤	UPPER CASE ASSEMBLY	C5-1 /C5-2	4(L8), 2(S7), 1(S4), 1(S6) 1(L9), 3(L10) *COVER ASSEMBLY (operation) *CONNECTOR Ⓐ	<NOTE5>
⑥	ELECTRONIC VIEW FINDER ASSEMBLY	C6	*CONNECTOR Ⓑ	-
⑦	FRONT CASE ASSEMBLY	C7	2(L11)	-
⑧	MICROPHONE	C8	*CONNECTOR Ⓒ	-

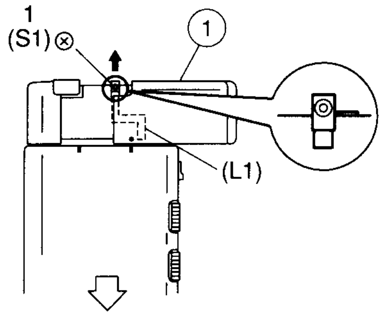
Note List of Abbreviations:
Remove 1 (S1) = One screw (S1)
Remove 4 (L2) = Four locks or pawls (L2)

1. Draw out the VF assembly to the "standby" position.

Note 1)
Since the lens cover will be opened when the VF assembly has been drawn out, the assembly should be drawn out so carefully as not to cause any damage to the OP lens.

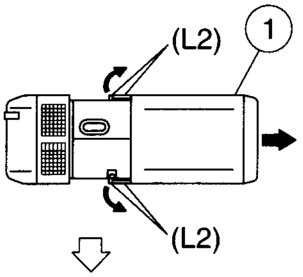


2. After removing the screw, dismount the lock while pulling up the lock lever.



3. While expanding both sides of the VF assembly, remove the lock and further pull out the assembly.

<TOP VIEW>



4. Under the conditions wherein the lock has been removed, take out the VF assembly while pulling it upward.

Note 2)
After removing the VF assembly, protect the electronic view finder (with adhesive tape, etc.) to avoid sticking of dust and other foreign matter on the finder.

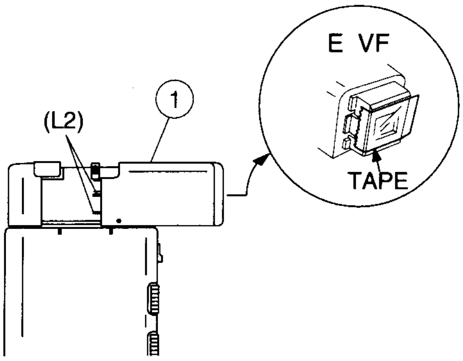
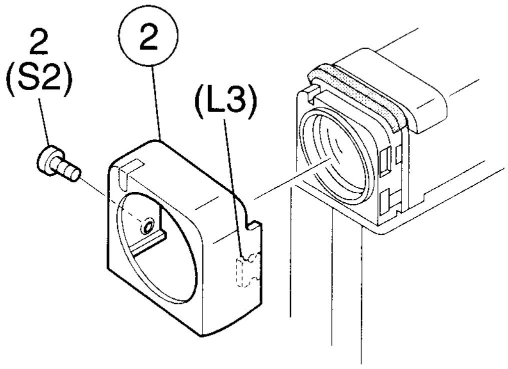


Fig. C1



Note 3)
The cover assembly (for front) should be mounted and dismounted so carefully as not to cause any damage to the outer frame of the OP lens. The cover assembly should be dismounted from the screw clamping side, and mounted from the front side. At this time, the sponge should also be handled carefully.

Fig. C2

1. Remove the screws No. 3 ~ 12 (ten screws in total).

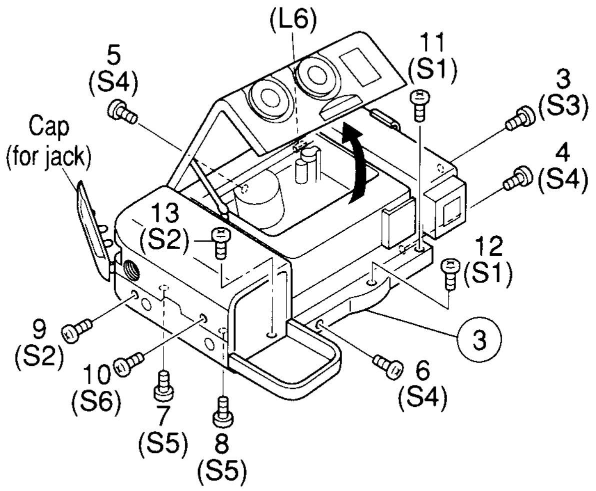
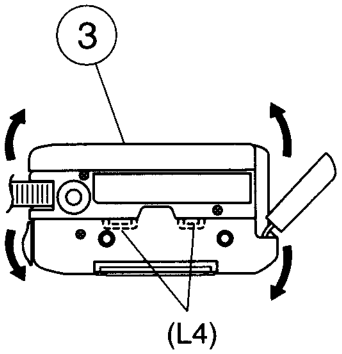


Fig. C3-1

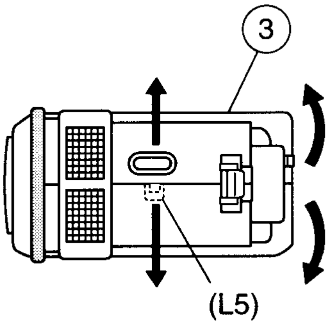
2. Under the conditions wherein the lithium case assembly has been removed, dismount the lower case assembly from the bottom surface so carefully as not to cause any damage to the pawl:

<BOTTOM VIEW>



3. While pressing the menu button, remove the pawl, and dismount the lower case assembly while opening the case assembly.

<TOP VIEW>



Note 4)
After the lower case assembly has been dismounted, be sure to close the lens cover to prevent any damage to the OP lens. Moreover, be carefully so as not to cause any scratch and damage on the lens cover surface. However, the lower case assembly should be mounted under the conditions wherein the lens cover is kept open.

Fig. C3-2

1. Disconnect the flexible wire connected to the connector CN9 of the main 2 P.C. board.
2. While raising and sliding the pawl, remove the (pawl) from the upper case assembly so carefully as not to cause any bending and deformation of the hinge assembly.

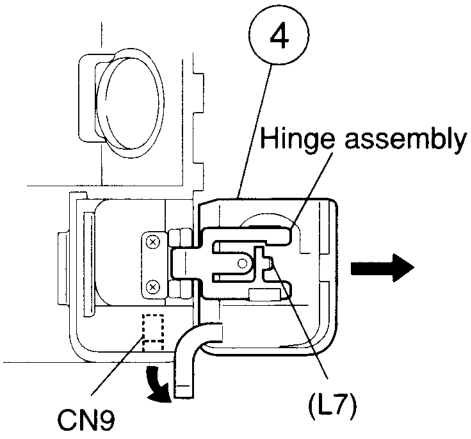


Fig. C4

1. After drawing out the cover assembly, remove the pawl while raising one side of the assembly, and dismount the assembly.
2. Remove the screws No. 13 ~ 16 (four screws in total).

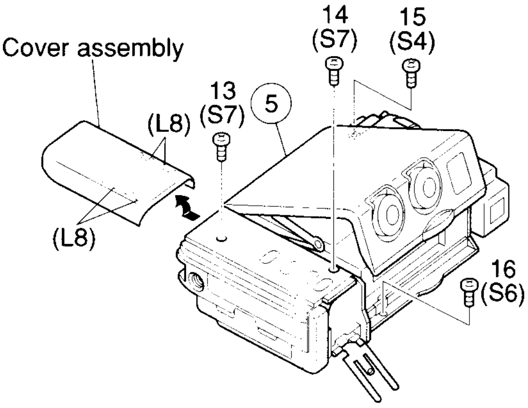
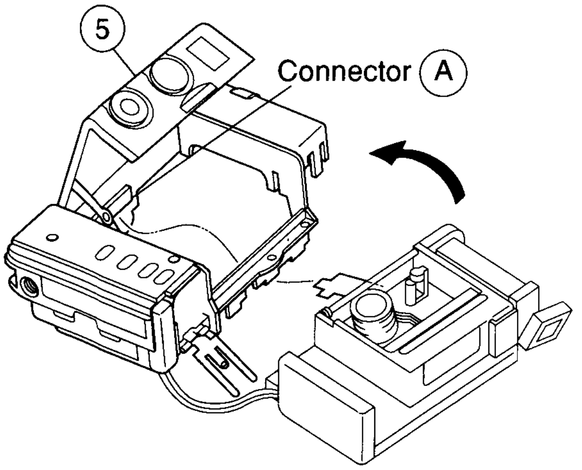
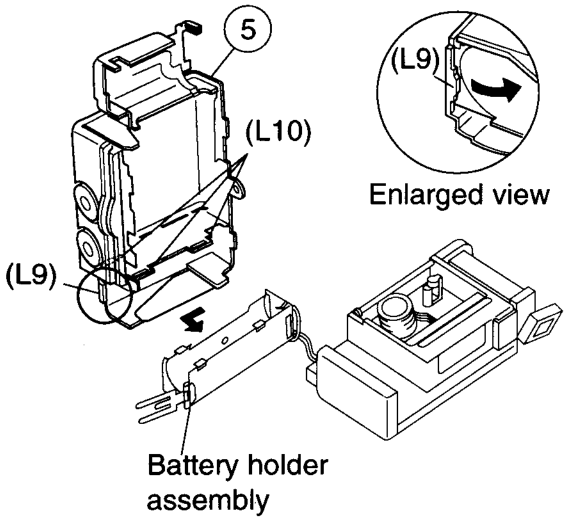


Fig. C5-1

3. Remove the upper case assembly while raising it from the cassette loading side, and disconnect the flexible wire from the connector Ⓐ.



4. After turning down the bottom surface of the upper case assembly, remove the lock on the operation (deck) side of the battery holder assembly. Then, remove the pawl from the groove by sliding the (pawl), and take out the battery holder assembly.



Note 5)
The battery holder assembly should be assembled so carefully as to prevent distortion of and stress to the wire (catching of wire).
Otherwise, the battery will be consumed. Moreover, smooth mounting and dismounting of the battery will also become impossible.

Fig. C5-2

1. After disconnecting the flexible wire connected to the connector CN701 of the main 2 P.C. board, remove the electronic view finder.

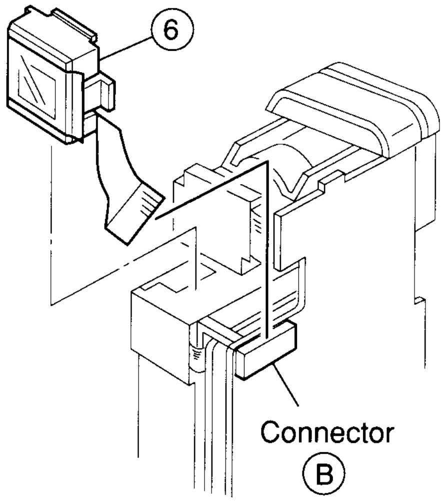


Fig. C6

1. Before removing the front case assembly, remove the lower pawl from between the cassette housing assembly and optical block assembly in advance. In this case, the front case assembly should be removed under the conditions wherein the lens cover is closed.

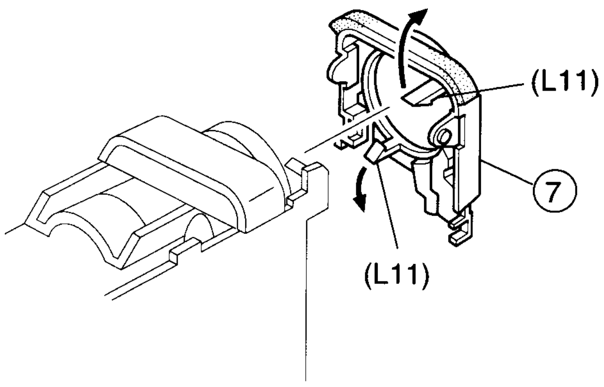
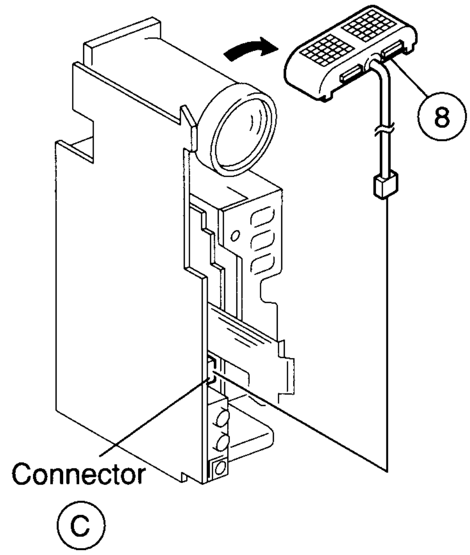


Fig. C7


⑧
Connector
Ⓒ

1. Remove the microphone from its upper part and finally pull out the connector. The microphone should be set while paying attention to wire treatment. After mounting the front case assembly, make sure that the lens cover be opened and closed smoothly.

Fig. C8

1.3.3 List of disassembly steps of the cabinet parts

Note 1) *The encircled figures indicate the sequence of removing the cabinet parts.*
Moreover, the screw numbers and the figures in parenthesis indicate the removing sequence and types of screws, respectively.

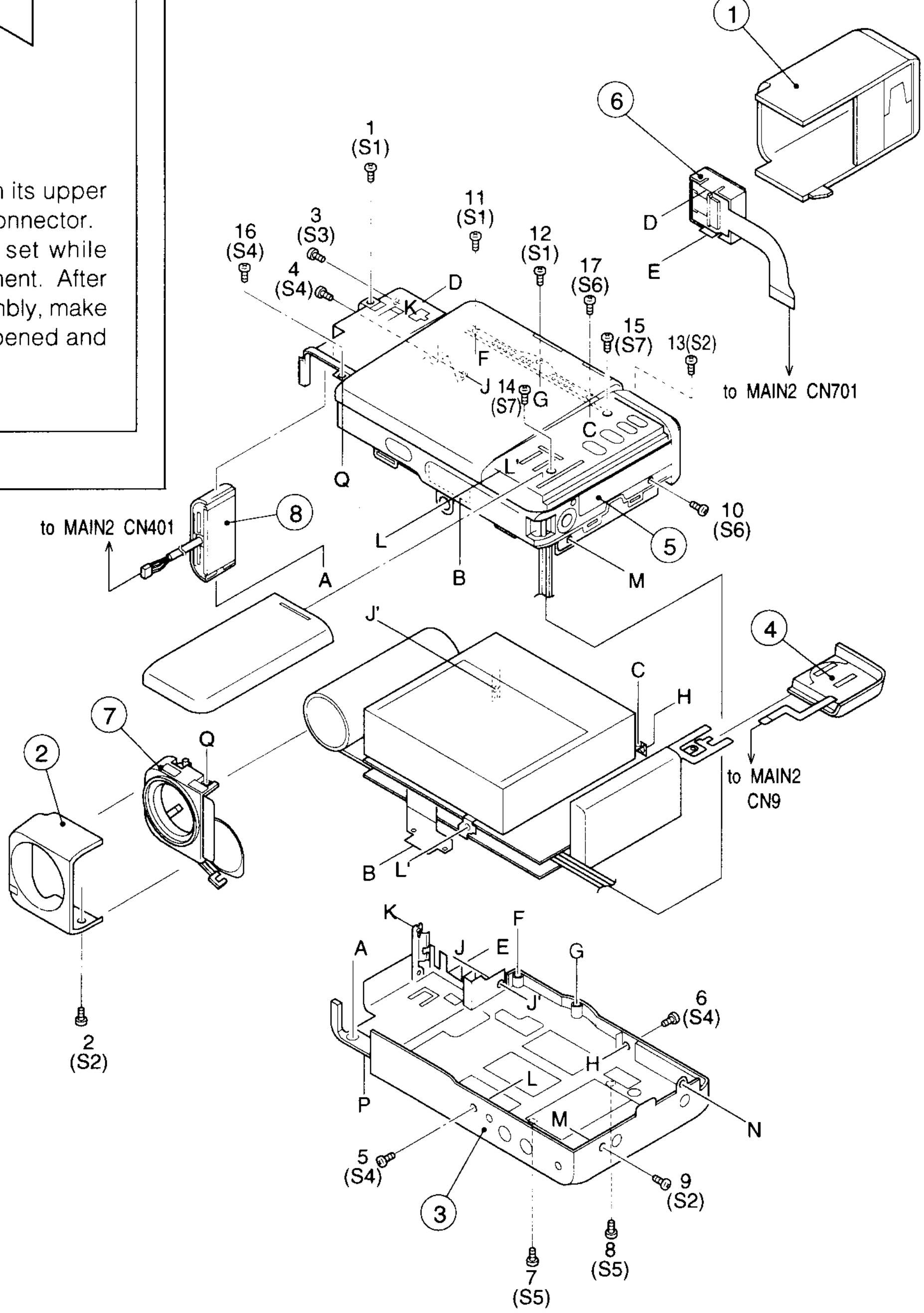

①
⑥
1 (S1)
11 (S1)
3 (S3)
16 (S4)
4 (S4)
12 (S1)
17 (S6)
15 (S7)
13(S2)
14 (S7)
D
E
K
F
J
G
C
L'
L
Q
B
M
A
to MAIN2 CN701
to MAIN2 CN401
⑧
⑤
10 (S6)
J'
④
C
H
to MAIN2 CN9
⑦
Q
②
B
L'
K
F
A
J
E
G
J'
6 (S4)
H
L
P
M
N
5 (S4)
③
9 (S2)
2 (S2)
7 (S5)
8 (S5)

Fig. 2-1

1.4 DISASSEMBLY/ASSEMBLY OF DECK PARTS/ CAMERA PARTS

1.4.1 Disassembly flow chart

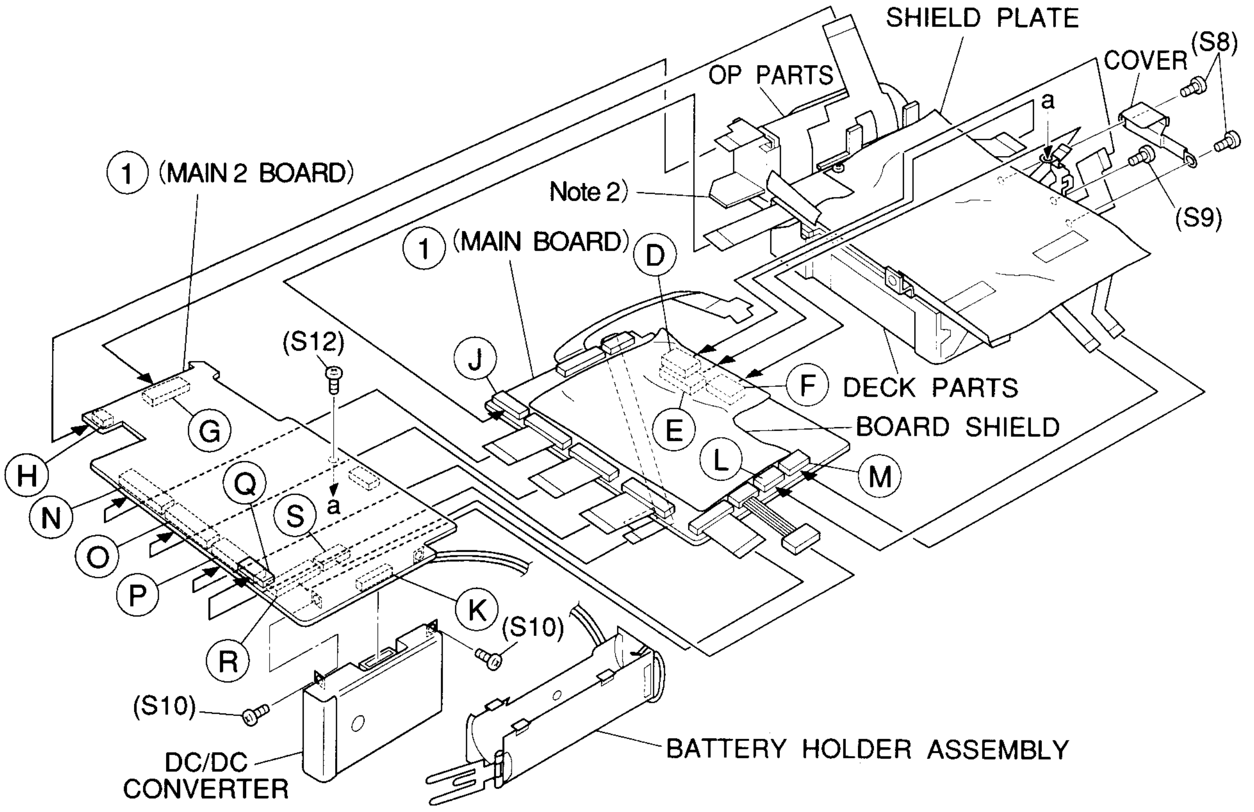
This flow chart indicates the disassembly steps of the deck parts/camera parts. Assembly should be performed according to the opposite steps in this flow chart. Regarding disassembly/assembly of the cassette housing assembly, refer to the mechanism repair (maintenance) and adjustment methods.

① MAIN BOARD/MAIN 2 BOARD
↓
② OP PARTS
*See "DISASSEMBLY/ASSEMBLY OF OP PARTS" in Section
↓
④ DECK PARTS (Mechanism)

1.4.2 Disassembly Method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	MAIN BOARD/ MAIN 2 BOARD	D1	2(S8), 1(S9), 2(S10), 2(S12) *Board shield *Cover *Connector Ⓓ-Ⓢ *Battery holder assembly *DC/DC converter	<NOTE 1>
②	OP PARTS	D2	1(S10), 2(S11) *OP frame	–
③	DECK PARTS (Mechanism)	D3	1(S9) *Shield plate Bracket (1)	–

Note List of Abbreviations:
Remove 2 (S8) = Two screws (S8)


SHIELD PLATE
COVER
(S8)
OP PARTS
a
① (MAIN 2 BOARD)
Note 2)
(S9)
① (MAIN BOARD)
Ⓓ
(S12)
Ⓙ
Ⓕ DECK PARTS
BOARD SHIELD
Ⓖ
Ⓔ
Ⓗ
Ⓠ
Ⓛ
Ⓜ
Ⓝ
Ⓢ
a
Ⓞ
Ⓟ
Ⓚ
(S10)
Ⓡ
(S10)
DC/DC CONVERTER
BATTERY HOLDER ASSEMBLY

Note 1)
The respective connectors should be disconnected in alphabetical order. In this case, be careful so as not to cause any wire breaking.
Note 2)
Remove the shield between OP parts and MAIN2 board.

Fig. D1

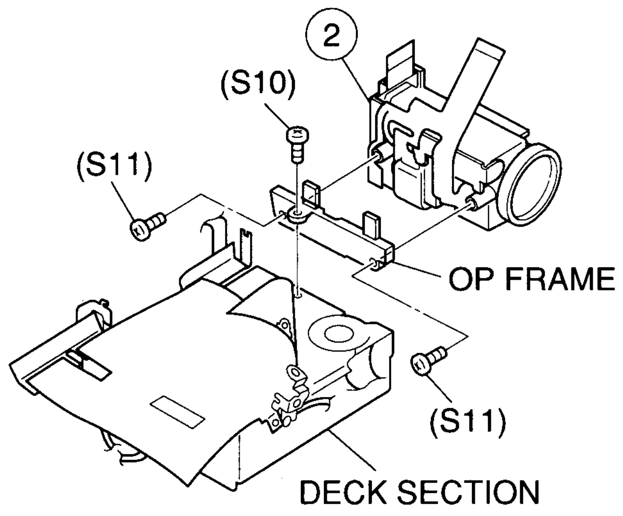

2
(S10)
(S11)
OP FRAME
(S11)
DECK SECTION

Fig. D2

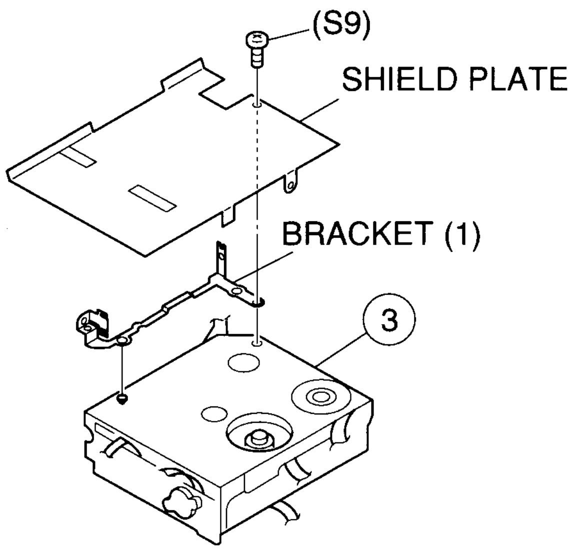

(S9)
SHIELD PLATE
BRACKET (1)
3

Fig. D3

Destinations (Locations) of the Respective Connectors

⟷: Board to Board connector
⇔: Flat wire
↔: Wire

Con-nector	No. of Pins	Connector
Ⓓ	11	MAIN CN302 ⇔ DRUM MOTOR
Ⓔ	18	MAIN CN301 ⇔ CAPSTAN MOTOR
Ⓕ	8	MAIN CN601 ⇔ HEAD
Ⓖ	22	MAIN 2 CN802 ⇔ OP
Ⓗ	15	MAIN 2 CN801 ⇔ CCD
Ⓙ	15	MAIN CN201 ⇔ MECHANISM (SENSOR)
Ⓚ	50	MAIN 2 CN5 ⟷ DC/DC CONVERTER
Ⓛ	8	MAIN CN202 ⇔ MECHANISM (CAM SWITCH)
Ⓜ	6	MAIN CN203 ⇔ LOADING MOTOR
Ⓝ	30	MAIN 2 CN4 ⇔ MAIN CN101
Ⓞ	30	MAIN 2 CN3 ⇔ MAIN CN503
Ⓟ	30	MAIN 2 CN2 ⇔ MAIN CN502
Ⓠ	11	MAIN 2 CN7 ⇔ MAIN CN303
Ⓡ	18	MAIN 2 CN1 ⇔ MAIN CN501
Ⓢ	5	MAIN 2 CN6 ↔ MAIN CN504

1.5 DISASSEMBLY/ASSEMBLY OF OP PARTS

1.5.1 Replacement of CCD image sensor

(Note)

- *The transparent glass, optical filter and master lens of the CCD image sensor should be treated sufficiently carefully to protect these components from stain, scratch and damage. Should these components be stained by finger print and so forth, wipe the components with silicon paper, clean chamois leather and so forth.*
- *The CCD image sensor will sometimes be shipped under the conditions wherein an orange color protective seal has been stuck on the transparent glass. The seal should not be peeled off until immediately before installing the transparent glass to the OP block at the time of replacement.*

1.5.2 Removing method

By removing the two screws Ⓐ retaining the CCD image sensor, remove the CCD spacer. Then, remove the optical low pass filter, rubber spacer and CCD base so carefully as not to drop the CCD image sensor.

1.5.3 Mounting method

1. After peeling off the protective seal of the CCD image sensor, successively pile up the rubber spacer and optical low pass filter and put them on the OP block. In this case, the respective components should be mounted according the instructions in the table below:

Parts Name	Mounting direction
CCD image sensor	The marking should be in the direction of arrowⓐ.
Rubber spacer	The CCD side should be horizontal.
Optical low pass filter	The marking should be in the arrow ⓐ direction and located on the OP block side.

2. Pile up the components on the OP block so that the CCD image sensor marking faces the opposite direction of the arrowⓐ.
3. Fix the CCD spacer with the two screws Ⓐ.
4. After replacement of the CCD image sensor, mount the respective P.C. boards of the camera section. Then, the sensor has been replaced correctly if the video-taped picture is free from any vignetting when monitored.

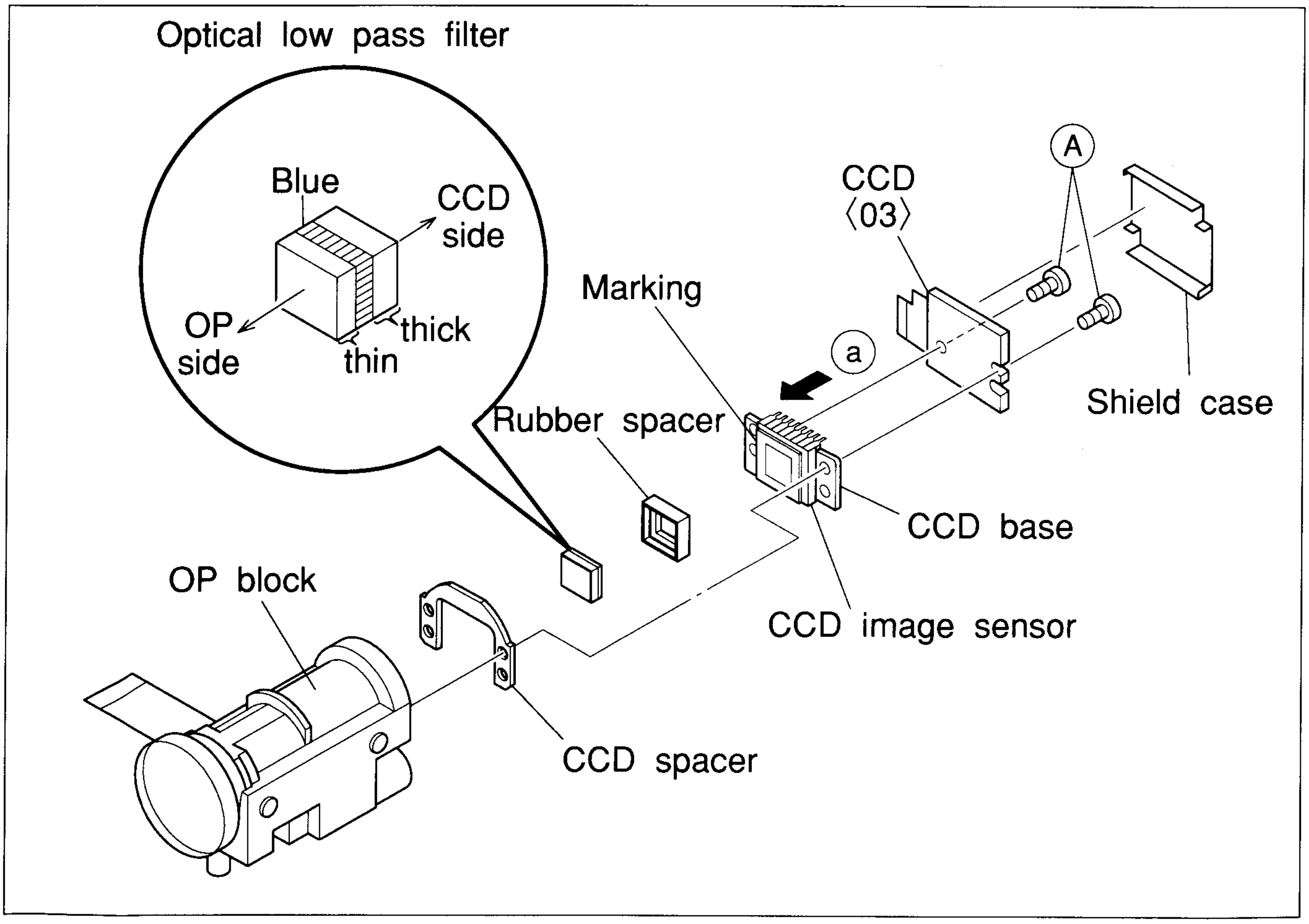


Fig. 1-5-1 CCD image sensor

1.6 TO TAKE OUT CASSETTE TAPE

In case it is impossible to eject the cassette tape which has been loaded, take out the tape according to the following steps. However, this is a simple method and applicable only in case the tape cannot be taken out due to the cause of electrical trouble rather than the cause due to phase shift and so forth of the mechanism.
When easy execution of work and reliability are taken into account, it is recommended to take out cassette tape after all of the cabinet parts have been removed.

1. Remove the power supply unit (battery and DC cord) from the body.
2. While sliding the door lock button, open the cover exactly to the position where the cover stops.
3. Stop the tape when both of the pole bases have been unloaded to inside the tape while applying DC 3 V to the motor pole.
   Since the tape is kept as it has been loaded, however, pay attention to sticking of grease and so forth (See the enlarged view "A").
   When unloading is continued even after both of the pole bases have been loaded to inside the tape, then the tape will ultimately reach the eject position. Thereby, the cassette housing assembly will be raised and cause a tape damage due to the front and back covers of the tape. Therefore, this step should be performed so carefully as not to cause such a tape damage.
4. Any loosened tape should be winded up by turning the capstan motor shaft in the arrow direction (See the enlarged view "B").
   In case it is impossible to wind up the tape even after turning the shaft, any drive power will not be transmitted to the reel disc as the swing arm assembly has been kept free. In this case, perform fine adjustment of the mechanism mode.
   After confirming that the tape has been winded up perfectly, take out the tape while unloading it further to the eject position.
   Subsequent to taking out the tape, perform cleaning of the capstan motor shaft.

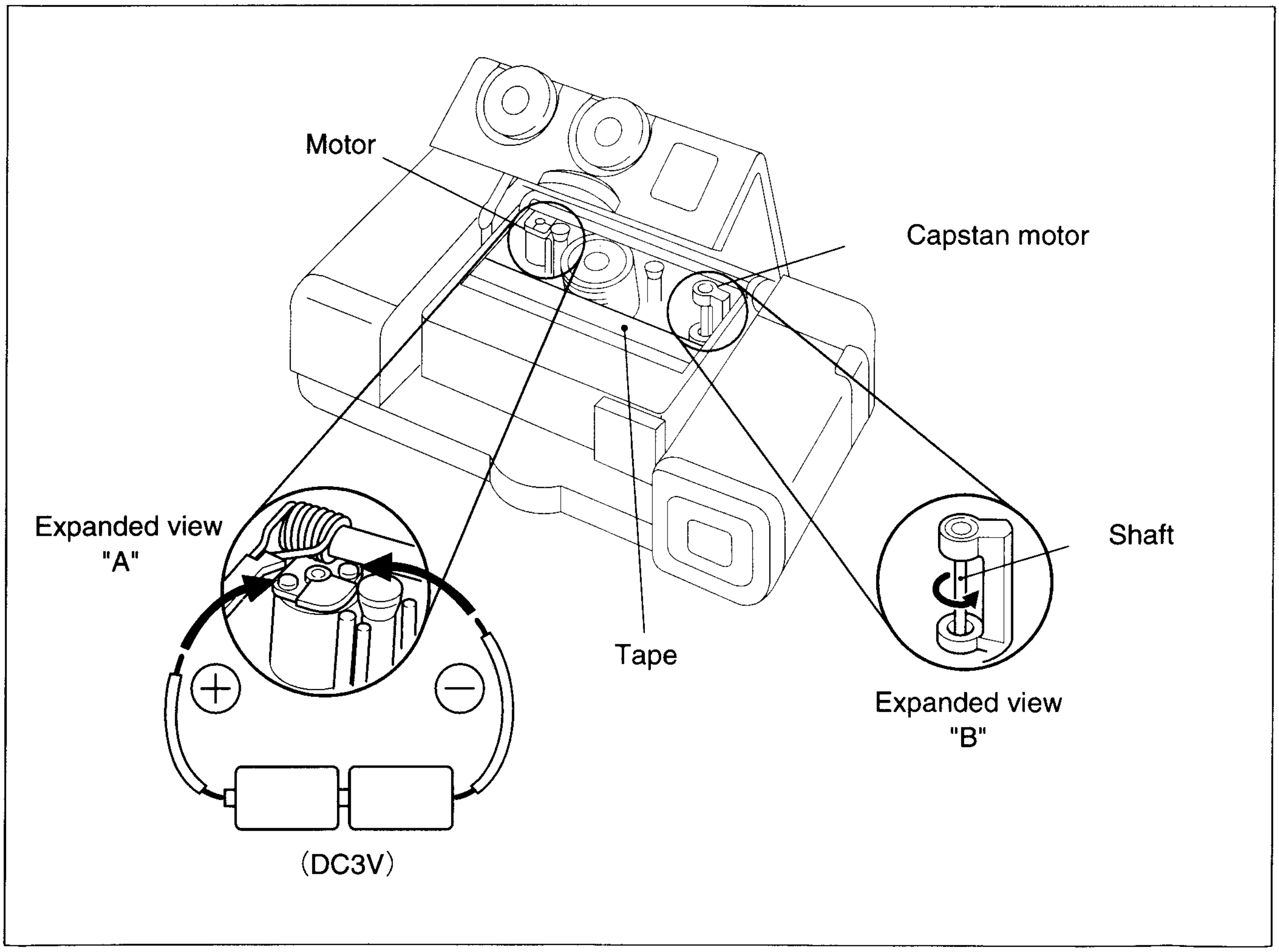


Fig. 1-6-1

1.7 EXTENSION CABLE CONNECTION

Connector	Pins	Connector	Parts Numbers
①	22	MAIN 2 CN802 ↔ OP	YTU94077-22 YTU94074-22
②	15	MAIN 2 CN801 ↔ CCD	YTU94077-15 YTU94074-15
③	26	MAIN CN103 ↔ OPERATION	YTU94077-26
④	5	MAIN2 CN6 ↔ MAIN CN504	YTU94091
⑤	18	MAIN2 CN1 ↔ MAIN CN501	YTU94077-18
⑥	8	MAIN CN202 ↔ MECHANISM (CAM SWITCH)	YTU94077-8 YTU94074-8
⑦	6	MAIN CN203 ↔ MECHANISM (LOADING MOTOR)	YTU94077-6 YTU94074-6
⑧	8	MAIN CN601 ↔ MECHANISM (HEAD)	YTU94077-8 YTU94074-8
⑨	11	MAIN CN302 ↔ DRUM MOTOR	YTU94077-11 YTU94074-11
⑩	18	MAIN CN301 ↔ CAPSTAN MOTOR	YTU94077-18 YTU94074-18
⑪	15	MAIN CN201 ↔ MECHANISM (SENSOR)	YTU94077-15 YTU94074-15
⑫	26	MAIN2 CN701 ↔ VF	YTU94077-26 YTU94074-26

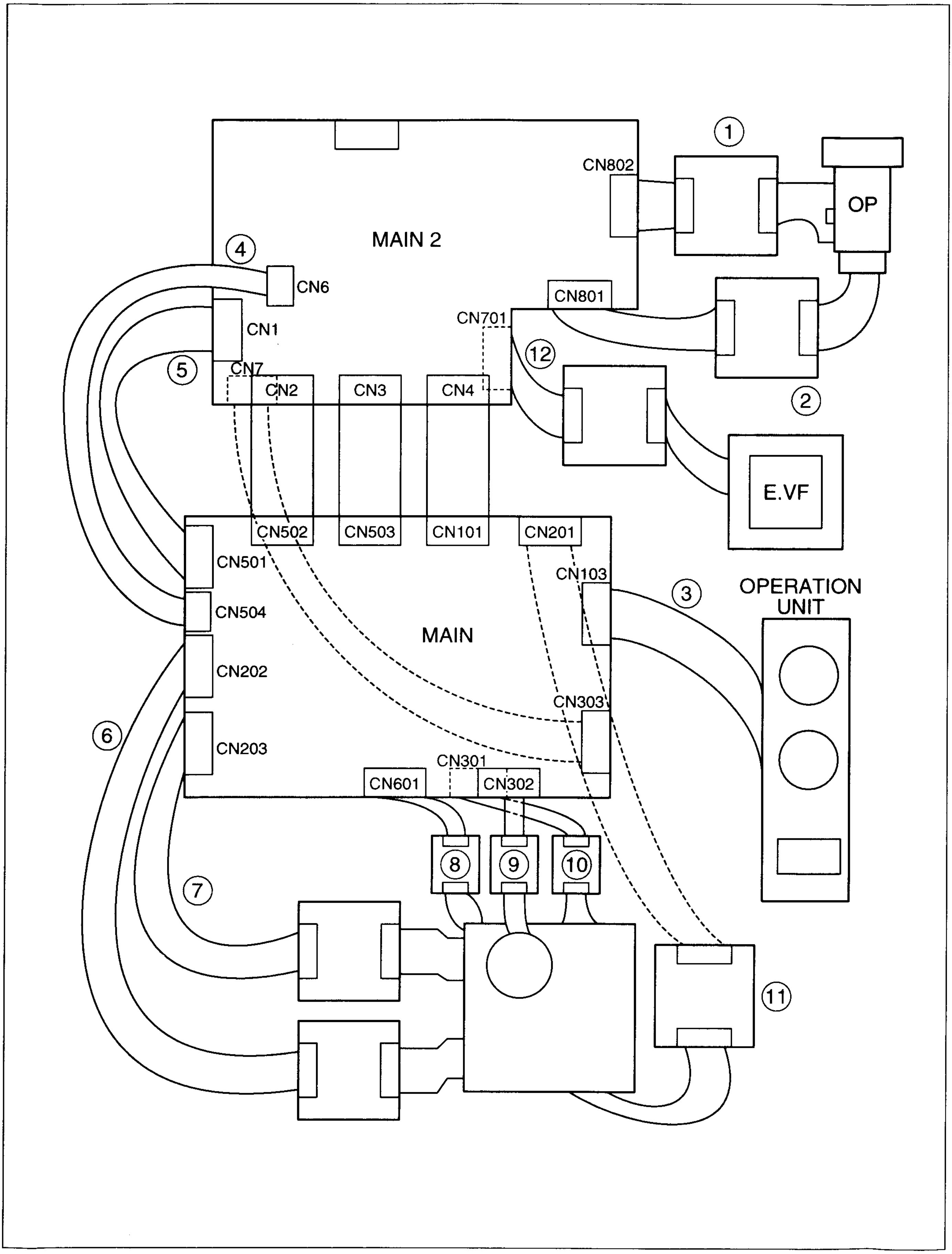

①
CN802
OP
MAIN 2
④
CN6
CN1
⑤
CN7
CN2
CN3
CN4
CN801
CN701
⑫
②
E.VF
CN502
CN503
CN101
CN201
CN501
CN103
③
OPERATION UNIT
CN504
MAIN
CN202
CN303
⑥
CN203
CN301
CN601
CN302
⑧
⑨
⑩
⑦
⑪

Fig. 1-7-1 EXTENSION CABLE CONNECTION

SECTION 2
MECHANISM ADJUSTMENT

2.1 SERVICE CAUTIONS

2.1.1 Precautions

1. The drum assembly should be handled carefully. Moreover, be particularly careful so as not to touch the upper copper plate of the upper drum assembly.
2. The screw clamping torque for mounting the respective parts of this product has been set to much lower than those of the video movie as indicated below. Therefore, screw clamping should be performed sufficiently carefully.

   Mechanism section : 0.4 kgf.cm
   Cassette housing assy: 0.6 kgf.cm
   (Camcorder for reference: 1.2 kgf.cm)

3. Prior to mounting and soldering of parts, remove the power supply unit.
4. Any connector should be disconnected and connected so carefully as not to cause any damage to the wire (See the service items inherent to this product).
5. Any parts should be mounted and dismounted so carefully as not to cause any damage to the other parts and erroneous mounting of parts.

2.1.2 How to read the disassembly and assembly

The table below indicates the procedures for disassembly and assembly of the mechanism parts.
Therefore, be sure to start actual disassembly and assembly after sufficiently reading the following descriptions.

① : The sequence of disassembly is indicated. Perform assembly according to the opposite order of this sequence. Moreover, this number corresponds to the number in the disassembly diagram.
② : The names of the parts to be disassembled or assembled are indicated.
③ : The mounted surfaces of the parts to be disassembled or assembled are indicated. T = Top, B = Bottom.
④ : The number of disassembly diagram is indicated.
⑤ : The screw, washer, spring, and other parts including the points thereof to be removed prior to disassembly/assembly are indicated as follows:

P = Spring
W = Washer
S = Spring
* = Lock (L), soldering (SD), shield, connector, etc.

Example
- Remove (W1) = Washer W1.
- * Remove the solder at (SD1) = Point SD1.
- * Disconnect Ⓐ = Connector Ⓐ.

⑥ : Precautions for disassembly/assembly (Regarding the parts requiring phase adjustment at the time of assembly, see "Checkup and Adjustment of Mechanism Phase" in Paragraph 2.4)

2.1.3 Main screws and washers to deal with disassembly/assembly

Table 2-1-1 indicates the symbols, shapes and parts No. of screws and washers used for the mechanism assembly. During disassembly/assembly, be sure to use the correct screws and washers with reference to Table 2-1-1 below:

Symbol	Shape	Parts No.
S1		YQ43893-1
S2		YQ43893-2
S3		YQ43893-7

Symbol	Shape	Parts No.
W1		YQ44246
W2		YQ44246-2
W3		PQM30017-43
W4		YQ43933

Table 2-1-1

Step No.	Parts Name		Fig. No.	Point	Remarks
①	REEL COVER ASSEMBLY	T	M1	2(S1), (L1), (L2)	
②	PINCH ROLLER ARM ASSEMBLY	T	M1	(W1)	
③	SWING ARM ASSEMBLY	T	M1	(W2)	
④	RELEASE LEVER 2 ASSEMBLY	T	M2	–	

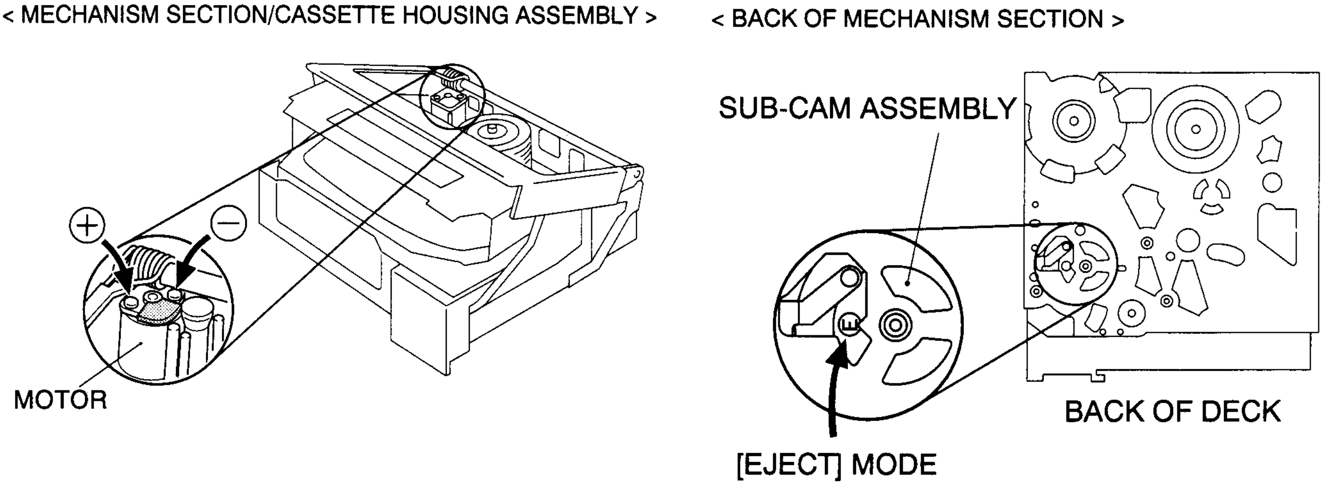
↑ ↑ ↑ ↑ ↑ ↑
① ② ③ ④ ⑤ ⑥

2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM SECTION AND CASSETTE HOUSING ASSEMBLY

2.2.1 Introduction

Normally, the disassembly/assembly work of the mechanism assembly should be performed under the [EJECT] mode (See Fig. 2-2-1).

Since the mechanism will be set to the [STOP] mode when the mechanism section has been dismounted from the body, however, the mechanism should be changed over to the [EJECT] mode from the [STOP] mode after dismounting the mechanism. Namely, set the mechanism to the [EJECT] mode while applying DC 3 V to the motor similarly according to the tape taking-out method in Section 1 "TO TAKE OUT CASSETTE TAPE". (Refer page 1-11)


< MECHANISM SECTION/CASSETTE HOUSING ASSEMBLY >

< BACK OF MECHANISM SECTION >

Fig. 2-2-1

2.2.2 Method of removing the cassette housing assembly

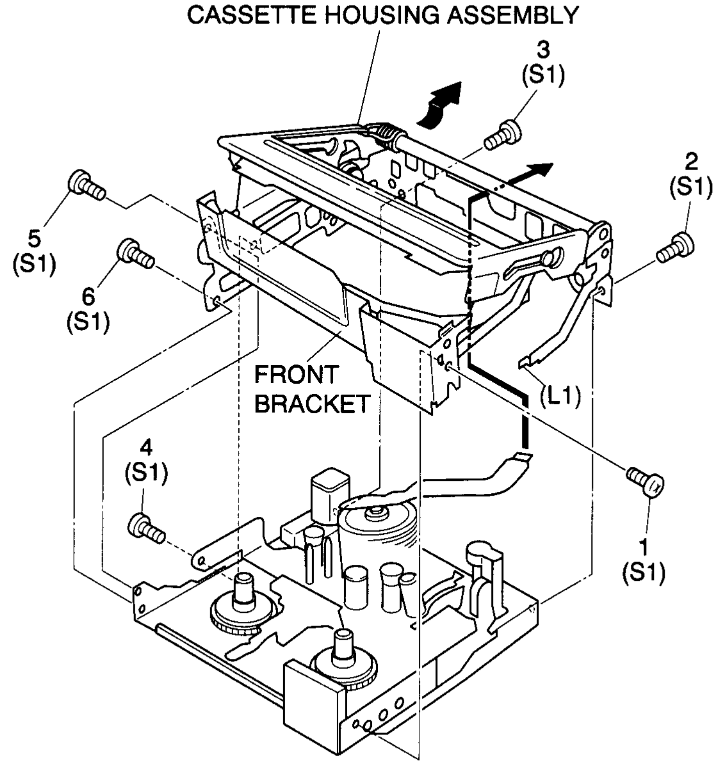


Fig. 2-2-2

1. Remove the six screws (S1) successively in order.
2. After removing the front brackets from each side, dismount the cassette housing assembly while removing L1. In this case, be careful so as not to cause breaking of the flexible wire of the drum motor assembly provided for connecting between the cassette housing assembly and frame.

2.2.3 Disassembly/assembly of mechanism section

1. Configuration

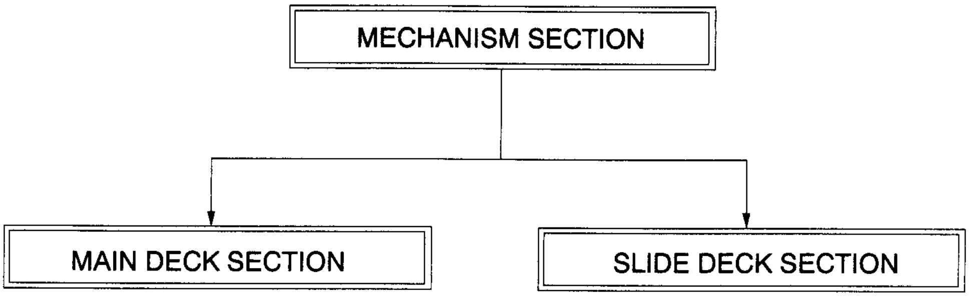

MECHANISM SECTION
MAIN DECK SECTION
SLIDE DECK SECTION

Fig. 2-2-3

2. Procedures for disassembly

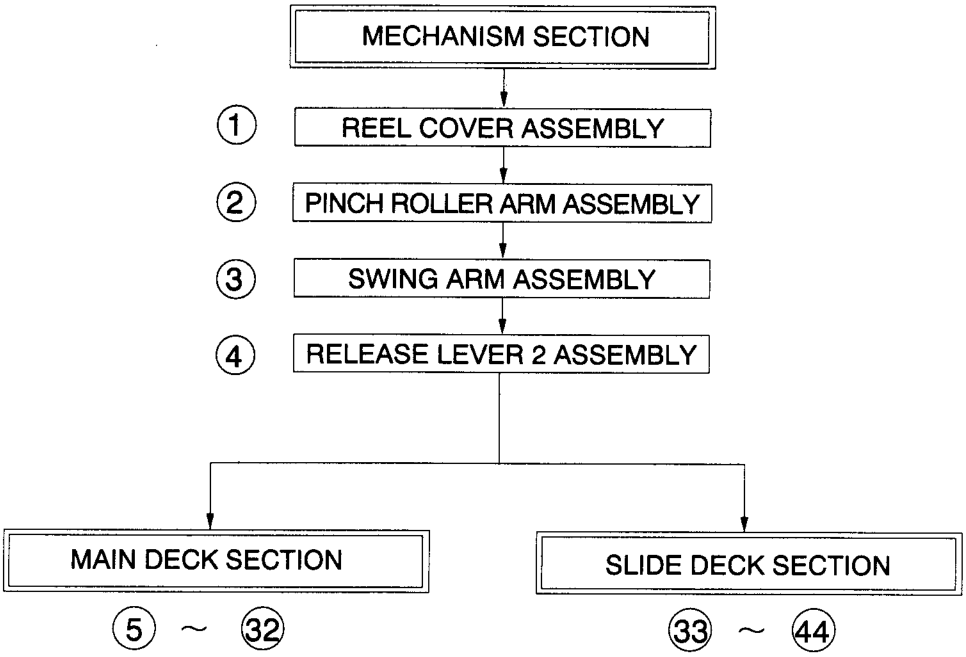
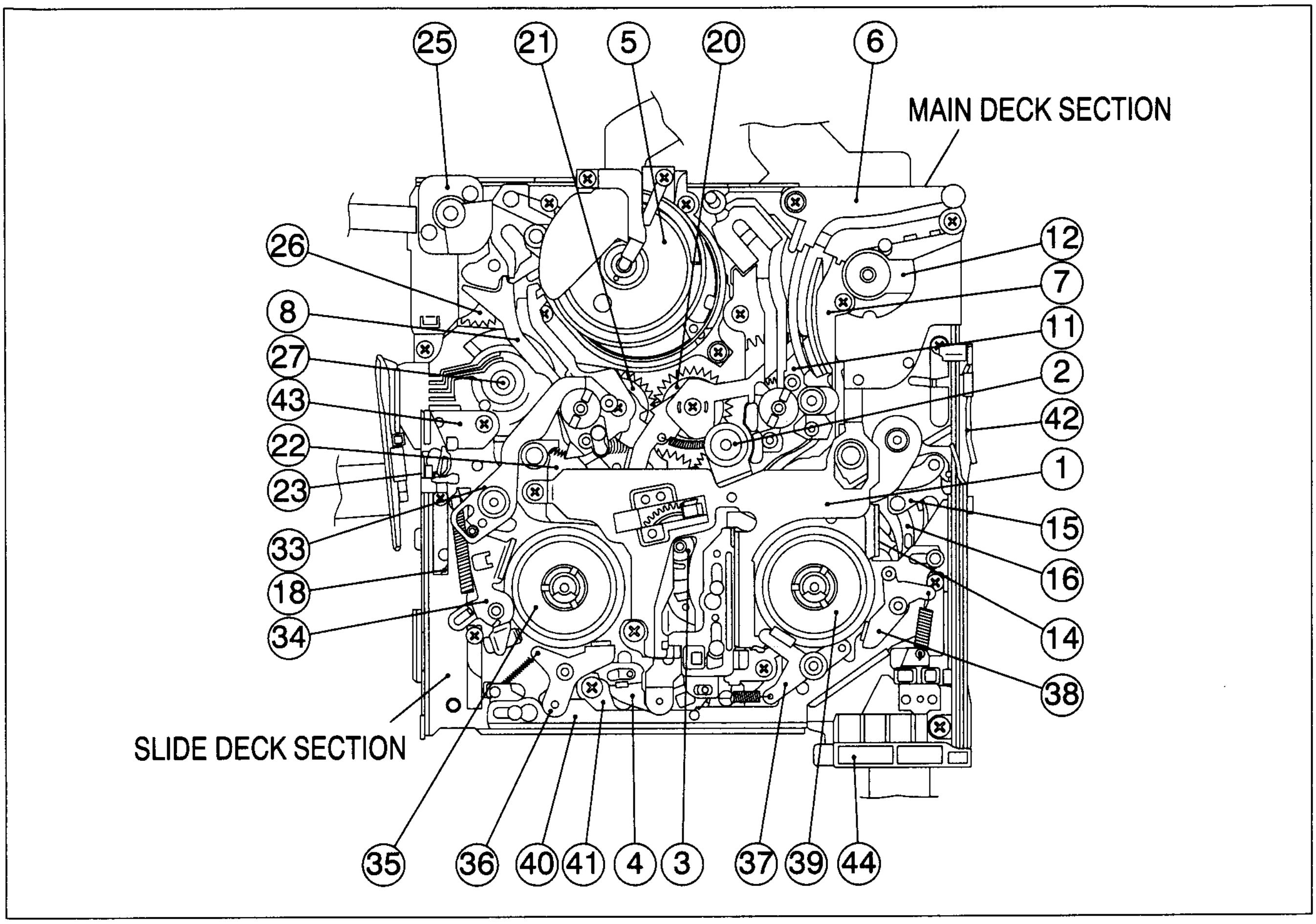
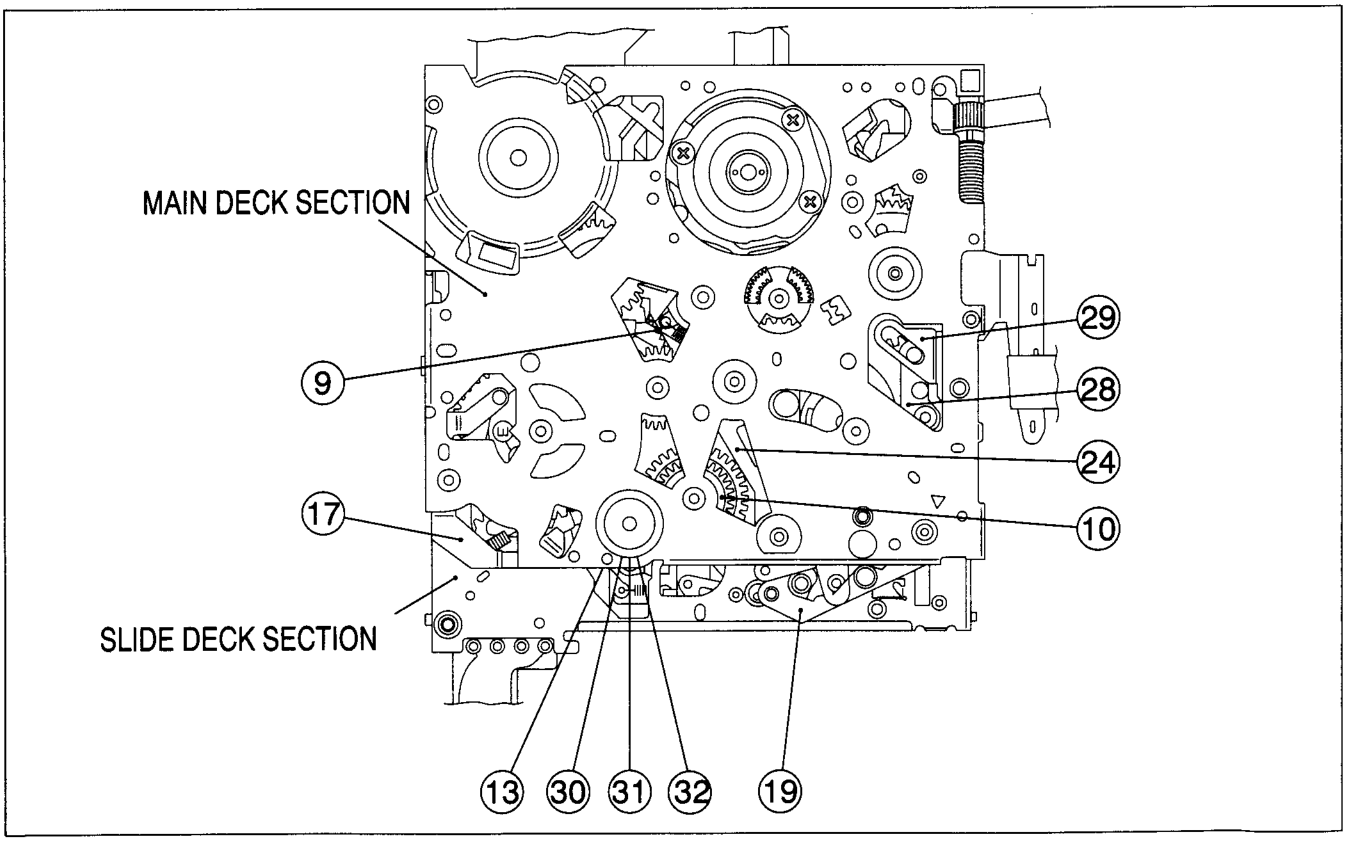

MECHANISM SECTION
① REEL COVER ASSEMBLY
② PINCH ROLLER ARM ASSEMBLY
③ SWING ARM ASSEMBLY
④ RELEASE LEVER 2 ASSEMBLY
MAIN DECK SECTION
⑤ ~ ㉜
SLIDE DECK SECTION
㉝ ~ ㊹

Fig. 2-2-4



㉕
㉑
⑤
⑳
⑥
MAIN DECK SECTION
㉖
⑧
㉗
(43)
㉒
㉓
㉝
⑱
㉞
⑫
⑦
⑪
②
(42)
①
⑮
⑯
⑭
㊳
SLIDE DECK SECTION
㉟
㊱
(40)
(41)
④
③
㊲
㊴
(44)

Fig. 2-2-5 TOP VIEW



MAIN DECK SECTION
⑨
⑰
SLIDE DECK SECTION
㉙
㉘
㉔
⑩
⑬
㉚
㉛
㉜
⑲

Fig. 2-2-6 BOTTOM VIEW

Step No.	Parts Name		Fig. No.	Point	Remarks
MECHANISM ASSEMBLY (MAIN DECK SECTION/SLIDE DECK SECTION)					
①	REEL COVER ASSEMBLY	T	M1	2(S1), (L1), (L2)	
②	PINCH ROLLER ARM ASSEMBLY	T	M1	(W1)	
③	SWING ARM ASSEMBLY	T	M1	(W2)	
④	RELEASE LEVER 2 ASSEMBLY	T	M2	–	
–	SLIDE DECK SECTION	T	M2	(S2), 4(S1)	NOTE 4)
MAIN DECK SECTION					
⑤	DRUM ASSEMBLY	T	M3	3(S1)	NOTE 5)
⑥	MIDDLE CATCHER ASSEMBLY	T	M3	2(S1)	
⑦	GUIDE RAIL ASSEMBLY (TAKE-UP SIDE)	T	M3	3(S1)	Adjustment & checkup of phase
⑧	GUIDE RAIL ASSEMBLY (SUPPLY SIDE)	T	M3	(S1), (L3)	Adjustment & checkup of phase
⑨	TIMING BELT	T	M4	–	
⑩	CENTER GEAR ASSEMBLY	T	M4	–	
⑪	REEL DRIVE PULLEY ASSEMBLY	T	M4	(W1)	
⑫	CAPSTAN MOTOR	T	M4	(S1)	
⑬	BASE PLATE ASSEMBLY	T	M4	(S1)	NOTE 4)
⑭	BRAKE CONTROL ARM ASSEMBLY	T	M4	(W1)	Adjustment and checkup of phase
⑭A	LIMIT SPRING	T	M4		
⑮	CHARGE ARM ASSEMBLY	T	M4	–	Adjustment & checkup of phase
⑯	SUB-CAM GEAR ASSEMBLY	T	M4	(S1)	Adjustment and checkup of phase
⑰	CLUTCH LOCK LEVER ASSEMBLY	T	M4	–	Adjustment & checkup of phase
⑱	T.A. CONTROL PLATE ASSEMBLY	T	M5	–	Adjustment & checkup of phase
⑲	SLIDE LEVER ASSEMBLY	T	M5	–	Adjustment & checkup of phase
⑳	CONNECT GEAR	T	M5	(S1)	
㉑	CONNECT GEAR	T	M5	(S1)	
㉒	MAIN CAM (1)	T	M5	(S3)	Adjustment & checkup of phase
㉓	MAIN CAM (2)	T	M5	–	Adjustment & checkup of phase
㉔	ARM GEAR ASSEMBLY	T	M5	(W3), *COLLER	Adjustment & checkup of phase
㉕	MOTOR BRACKET ASSEMBLY	T	M5	2(S1)	
㉖	WORM WHEEL	T	M5	(W1)	
㉗	ROTARY ENCODER	T	M6	2(S1), *SWITCH BRACKET	Adjustment & checkup of phase
㉘	EJECT LEVER ASSEMBLY	T	M6	–	Adjustment & checkup of phase
㉙	EJECT PLATE	T	M6	–	Adjustment & checkup of phase
㉚	PUSH PLATE	T	M6	(W1), (W4)	NOTE 3)
㉛	CLUTCH LOCK GEAR (2)	T	M6	(P1)	
㉜	CLUTCH LOCK GEAR (1)	T	M6	–	

Table 2-2-1 (A)

Step No.	Parts Name		Fig. No.	Point	Remarks
SLIDE DECK SECTION					
㉝	TENSION ARM ASSEMBLY	T	M7	(W1)	Adjustment & checkup of phase
㉞	PAD ARM ASSEMBLY	T	M7	(W1), (L4), (P2)	
㉟	REEL STAND ASSEMBLY (SUPPLY)	T	M7	(W4)	
㊱	MAIN BRAKE ASSEMBLY (SUPPLY)	T	M7	(W1), (L5), (P3)	
㊲	SUB-BRAKE ASSEMBLY	T	M8	(W1), (L6), (P4)	
㊳	MAIN BRAKE ASSEMBLY (TAKE UP)	T	M8	(W1), (L7), (P5)	
㊴	REEL STAND ASSEMBLY (TAKE UP)	T	M8	(W4)	
㊵	CONTROL PLATE ASSEMBLY	T	M8	-	Adjustment & checkup of phase
㊶	SLIDE GUIDE PLATE	T	M8	2(S2)	NOTE 1)
㊷	LID GUIDE	T	M9	2(S1)	
㊸	PRISM (S)	T	M9	(S1)	
㊹	FPC ASSEMBLY	T	M9	(S1)	

Table 2-2-1 (B)

Precautions for assembly

Note 1) *Slide guide plate*
The slide guide plate should be assembled under the [PLAY] mode by firmly fixing with screws. Therefore, The mechanism disassembly/assembly work under the [EJECT] mode should be performed under temporarily set conditions.

Note 2) *Pad arm assembly*
The pad arm assembly should be assembled after aligning the spring to the center groove.

Note 3) *Push plate*
After the push plate has been mounted, make sure that both of the plate edges come into contact uniformly with the main deck surface. In this case, the clutch lock gears (1) and (2) should be stuck tightly to each other (Confirmation of the clutch mechanism action).

Note 4) *Base plate assembly and slide deck section*
When the slide deck section is assembled, the clutch lock lever assembly, if raised due to the plate spring action, will cause formation of an opening between this assembly and the charge arm assembly. Thereby, such an opening will cause a trouble to occur in the slide action of the slide deck section. Therefore, the slide deck section should be assembled by fixing with screws after confirming that any such opening has not been formed between the assemblies.

Note 5) *Drum assembly*
The drum assembly should be assembled by fixing it with screws according to the sequence in Fig. 2-2-7.

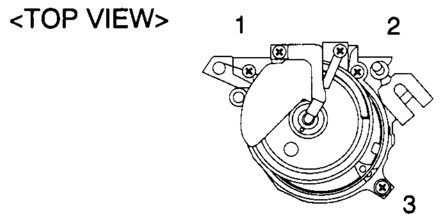


Fig. 2-2-7

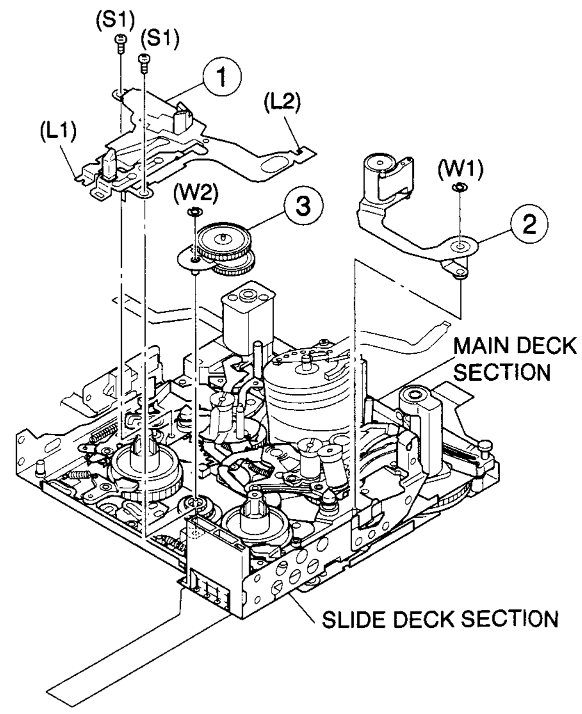
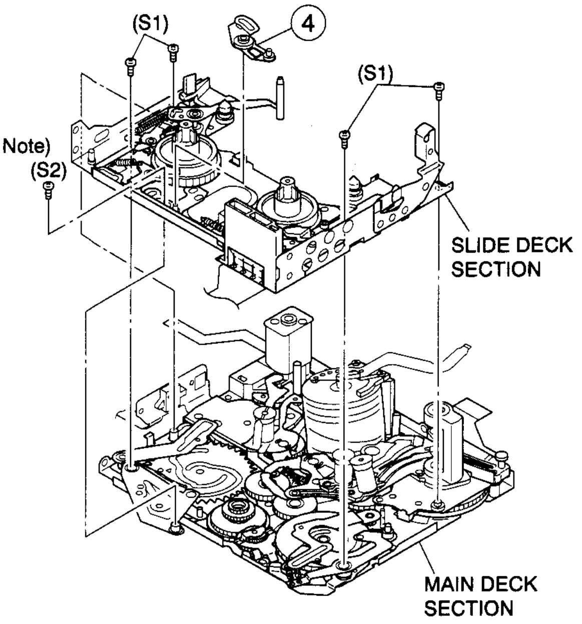


Fig.M1


(S1)
4
(S1)
Note)
(S2)
SLIDE DECK SECTION
MAIN DECK SECTION

Note) The screw clamping torque : 0.2 kgf.cm

Fig. M2

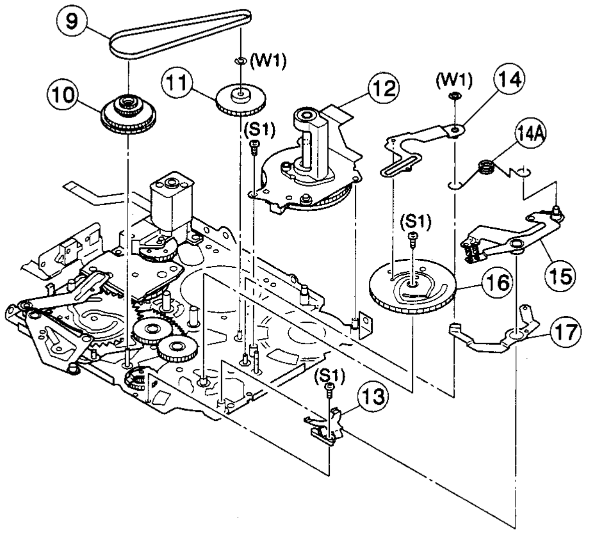

9
(W1)
10
11
12
(W1)
14
(S1)
14A
(S1)
16
15
17
(S1)
13

Fig. M4

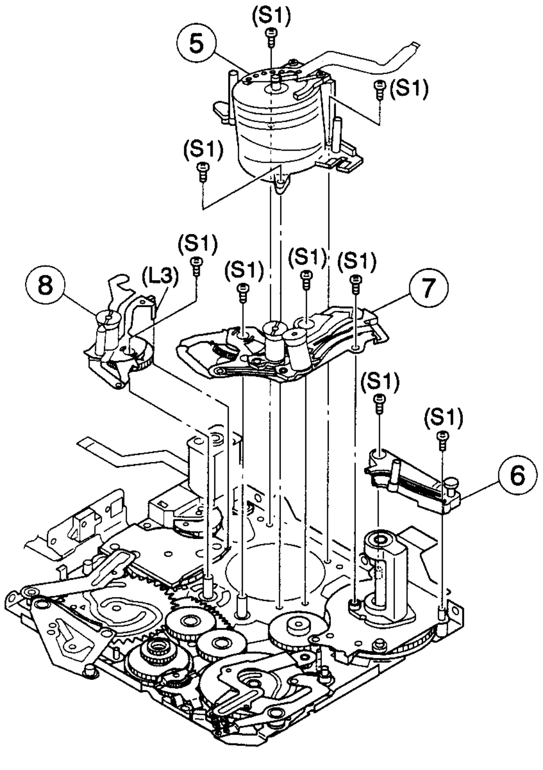

(S1)
5
(S1)
(S1)
(S1)
8
(L3)
(S1)
(S1)
(S1)
7
(S1)
(S1)
6

Fig. M3

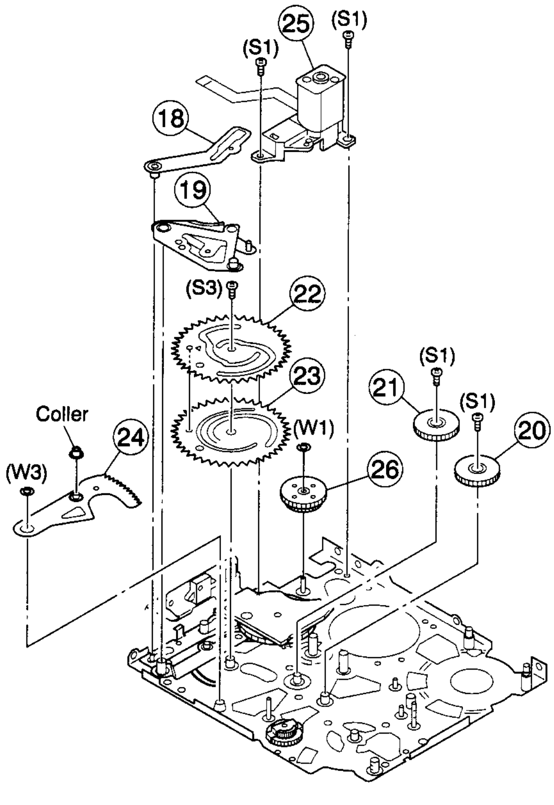

25
(S1)
(S1)
18
19
(S3)
22
23
(S1)
21
(S1)
Coller
(W1)
20
24
(W3)
26

Fig. M5

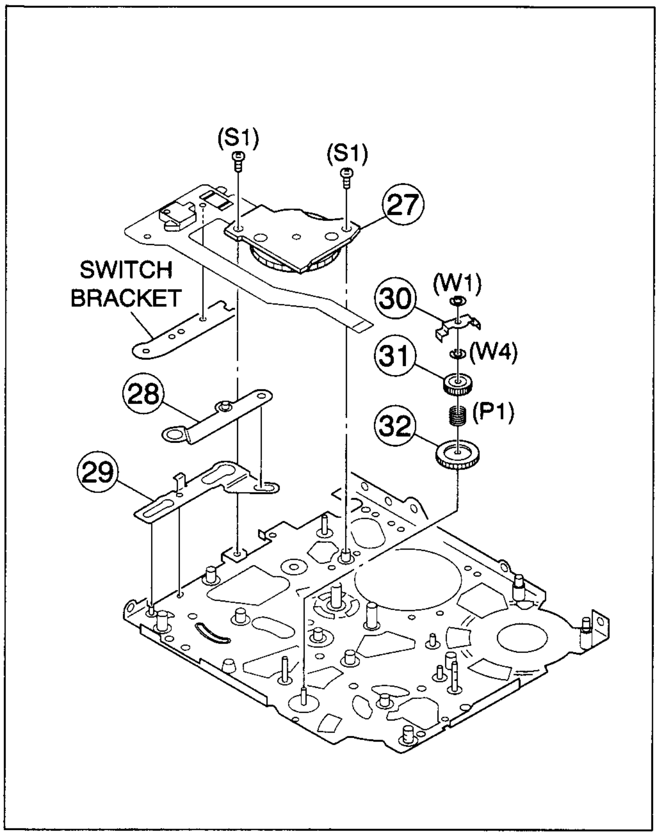

(S1)
(S1)
27
SWITCH BRACKET
30
(W1)
31
(W4)
28
32
(P1)
29

Fig. M6

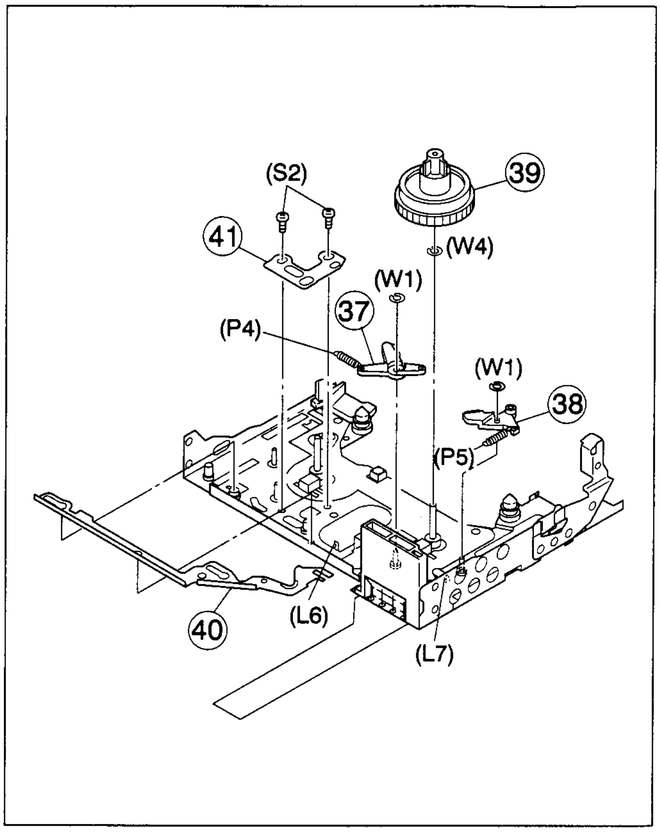

(S2)
39
41
(W4)
(W1)
37
(P4)
(W1)
38
(P5)
40
(L6)
(L7)

Fig. M8

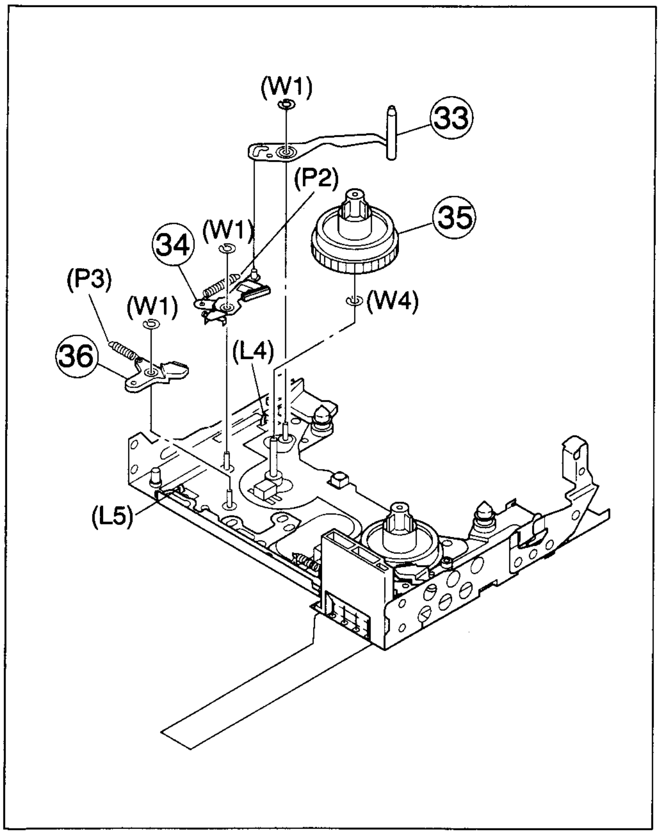

(W1)
33
(P2)
35
34
(W1)
(P3)
(W1)
(W4)
36
(L4)
(L5)

Fig. M7

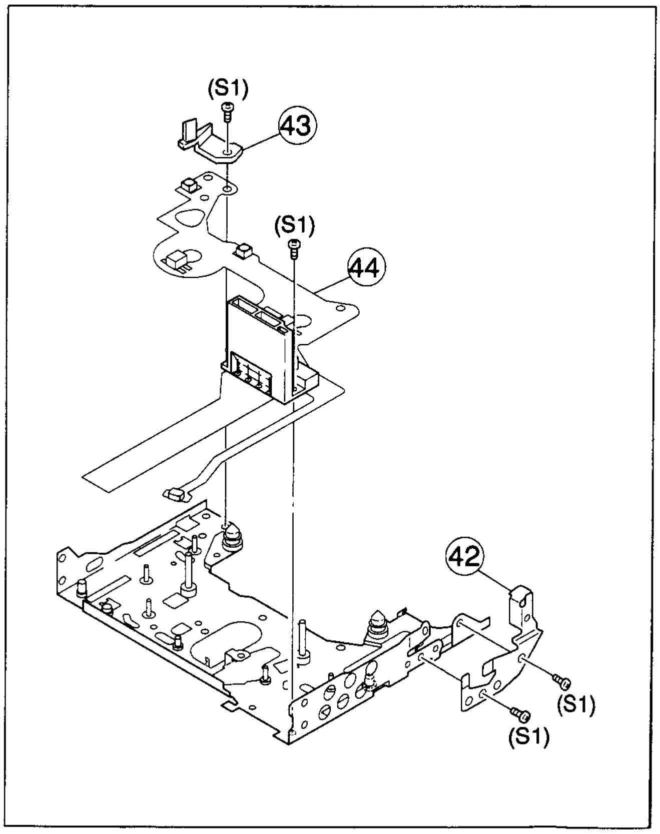

(S1)
43
(S1)
44
42
(S1)
(S1)

FIG. M9

3. List of procedures for disassembly

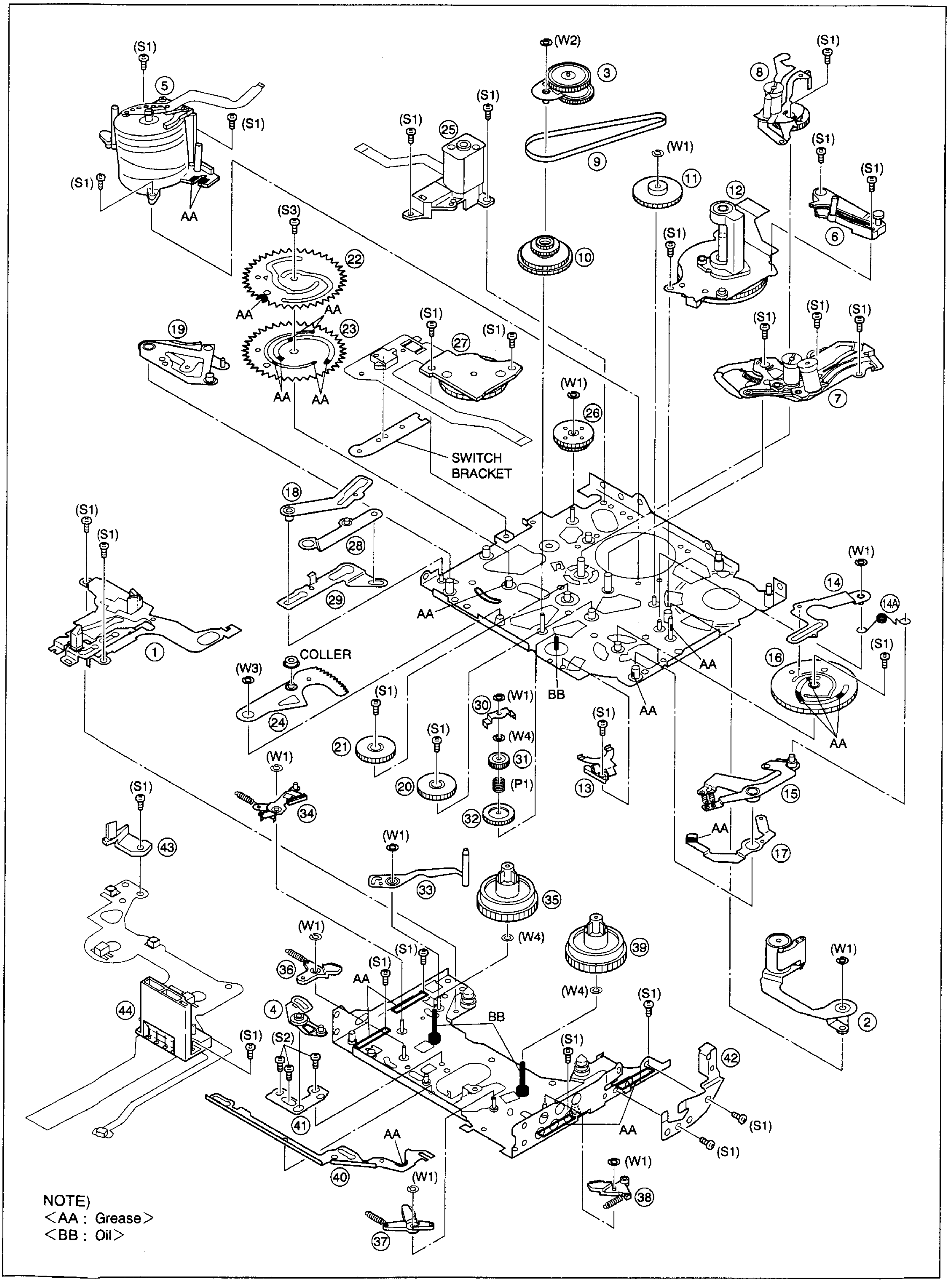
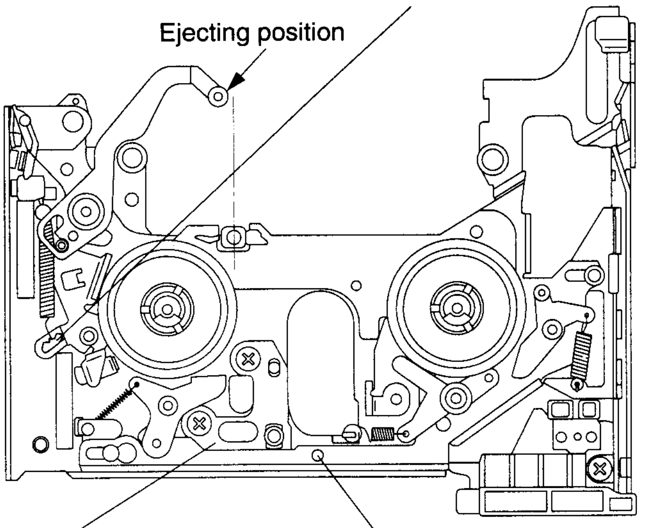

(S1)
⑤
(S1)
(S1)
AA
(W2)
③
(S1)
(S1)
㉕
⑨
(W1)
⑪
⑫
(S1)
⑧
(S1)
(S1)
⑥
(S3)
㉒
AA
AA
㉓
AA
AA
⑩
(S1)
⑲
(S1)
㉗
(S1)
(S1)
(S1)
(S1)
⑦
(W1)
㉖
SWITCH
BRACKET
⑱
㉘
㉙
AA
(S1)
(S1)
①
(W1)
⑭
⑭A
(S1)
AA
⑯
AA
AA
BB
COLLER
(W3)
㉔
(S1)
㉑
(S1)
⑳
㉚
(W1)
(W4)
㉛
(P1)
㉜
(S1)
⑬
⑮
AA
⑰
(W1)
㉞
(S1)
㊸
(W1)
㉝
㉟
(W4)
㊴
(W4)
(W1)
㊱
(S1)
(S1)
AA
(W1)
②
㊹
④
BB
(S1)
(S2)
(S1)
(S1)
㊷
(S1)
(S1)
㊶
AA
AA
㊵
(W1)
㊳
(W1)
㊲
NOTE)
<AA : Grease>
<BB : Oil>

Fig. 2-2-8

2.2.4 Confirmation and adjustment of mechanism phase

< SLIDE DECK SECTION >



Hook the spring to the center groove.

Ejecting position

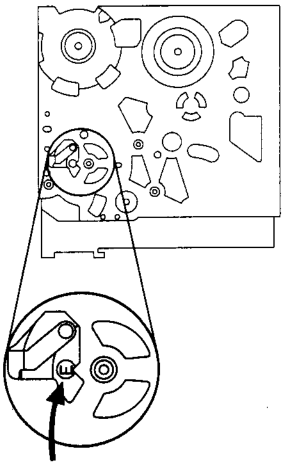
Firmly fix with screw under the [PLAY] mode.

The guide hole of the control plate assembly should be aligned to that of the slide deck section.

< MAIN DECK SECTION >

(Note) • *The guide holes of the respective parts should be aligned to those of the main deck.*

< BACK SURFACE OF MECHANISM SECTION >



[EJECT] MODE

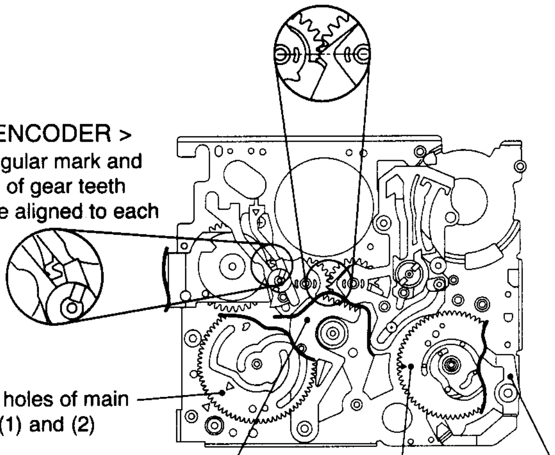
Fig. 2-2-9

< GUIDE RAIL ASSEMBLY >

These should be faced to each other.

< ROTARY ENCODER >

The triangular mark and red mark of gear teeth should be aligned to each other.



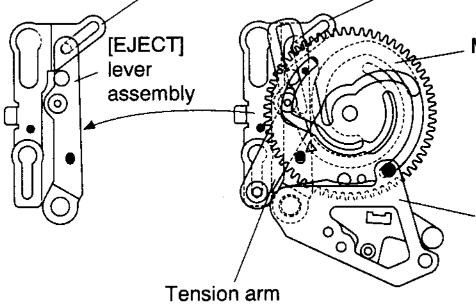
Guide holes of main cams (1) and (2)

Guide hole of arm gear assembly

Guide hole of clutch lock lever assembly

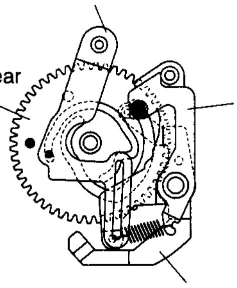
Guide hole of arm gear assembly

< ALIGNMENT OF PHASE AROUND MAIN CAM (1)/(2)



[EJECT] plate
[EJECT] plate
[EJECT] lever assembly
Main cams (1)/(2)
Slide lever assembly
Tension arm control plate assembly

< ALIGNMENT OF PHASE AROUND SUB-CAM GEAR >



Brake control arm assembly
Sub-cam gear assembly
Charge arm assembly
Clutch lock lever assembly

Fig. 2-2-10

2.3 TAPE TRANSPORT ADJUSTMENT

This adjustment is required when the drum assembly or the parts, etc. related to the tape traveling system have been changed.

2.3.1 Precautions

Table 2-3-1 shows important service points for adjusting interchangeability and error rate.

Adjustment item / Service point	Interchange-ability adjustment	Recording current adjustment	Error rate adjustment
Replacement of drum Assembly	Indispensable	Indispensable	Indispensable
Repair of tape pattern	Indispensable	Unnecessary	Check only
Replacement of IC601 (MAIN board)	Unnecessary	Indispensable	Check only
Replacement of IC602 (MAIN board)	Unnecessary	Unnecessary	Indispensable
Replacement of MAIN board	Unnecessary	Indispensable	Indispensable
Replacement of MAIN-2 board(Note)	Unnecessary	Check	Check

Table 2-3-1

Note: *When replacing the MAIN-2 board, make sure to back up the data and restore it into the memory of the new board beforehand. In that event, the set needs to adjust the new MAIN-2 board. If communication is disabled, replace the EEPROM.*

In the case adjustment is required for two or more items, make sure to proceed in the following order.

1. Tape pattern
   ↓
2. Recording current adjustment
   ↓
3. Error rate adjustment

2.3.2 Tape pattern

(1) Play the check tape.
(2) Observe the waveform at TP602 (PB ENV) through an oscilloscope (CH-1: + slope) while triggering it with a signal from TP201 (HID) on the MAIN board.
(3) Confirm that the waveform observed at TP602 (PB ENV) is linear and parallel without noticeable sag and level fluctuation as a whole. If the waveform is bad in the linearity or has noticeable sag in the level, adjust it by turning the guide roller with a roller driver.
(4) Set the "AT" (Auto Tracking) switch of the SSS software's "Remote Control Utility. VTR. Deck" to "OFF". Adjust the waveform observed at TP602 (PB ENV) so that its level changes parallel and linearly as a whole with change of the tracking as shown in Fig. 2-3-1.

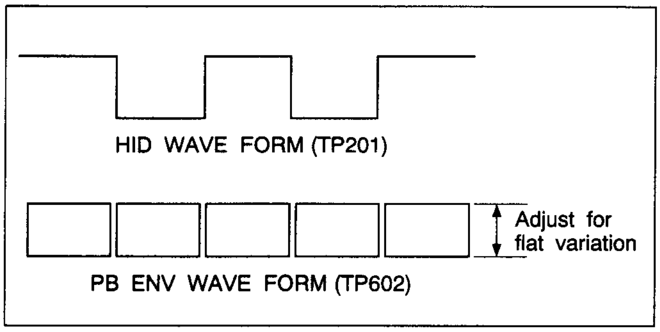

HID WAVE FORM (TP201)
Adjust for flat variation
PB ENV WAVE FORM (TP602)

Fig. 2-3-1 PB ENV waveform

(5) As required conventionally, repeat the above steps 3) and 4) until the PB ENV waveform is ideally stable or ideally varies with change of the tracking. Lastly, check the set for both audio and video while playing a prerecorded tape.

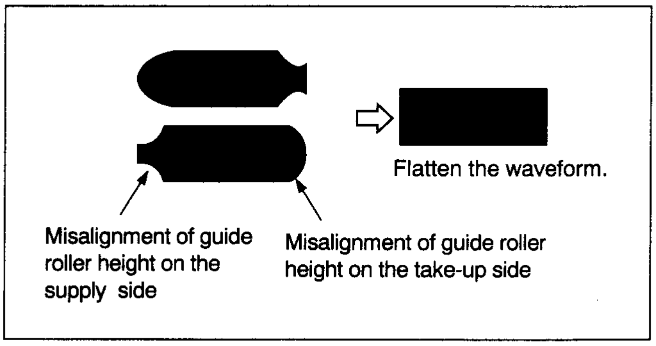

Flatten the waveform.
Misalignment of guide roller height on the supply side
Misalignment of guide roller height on the take-up side

Fig. 2-3-2

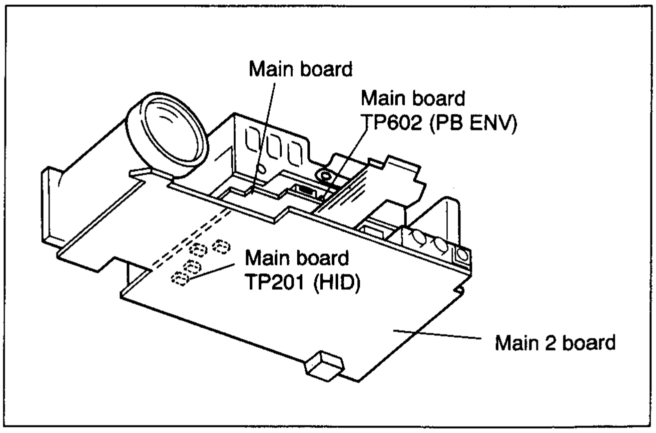

Main board
Main board TP602 (PB ENV)
Main board TP201 (HID)
Main 2 board

Fig. 2-3-3

2.3.3 Error rate fixture

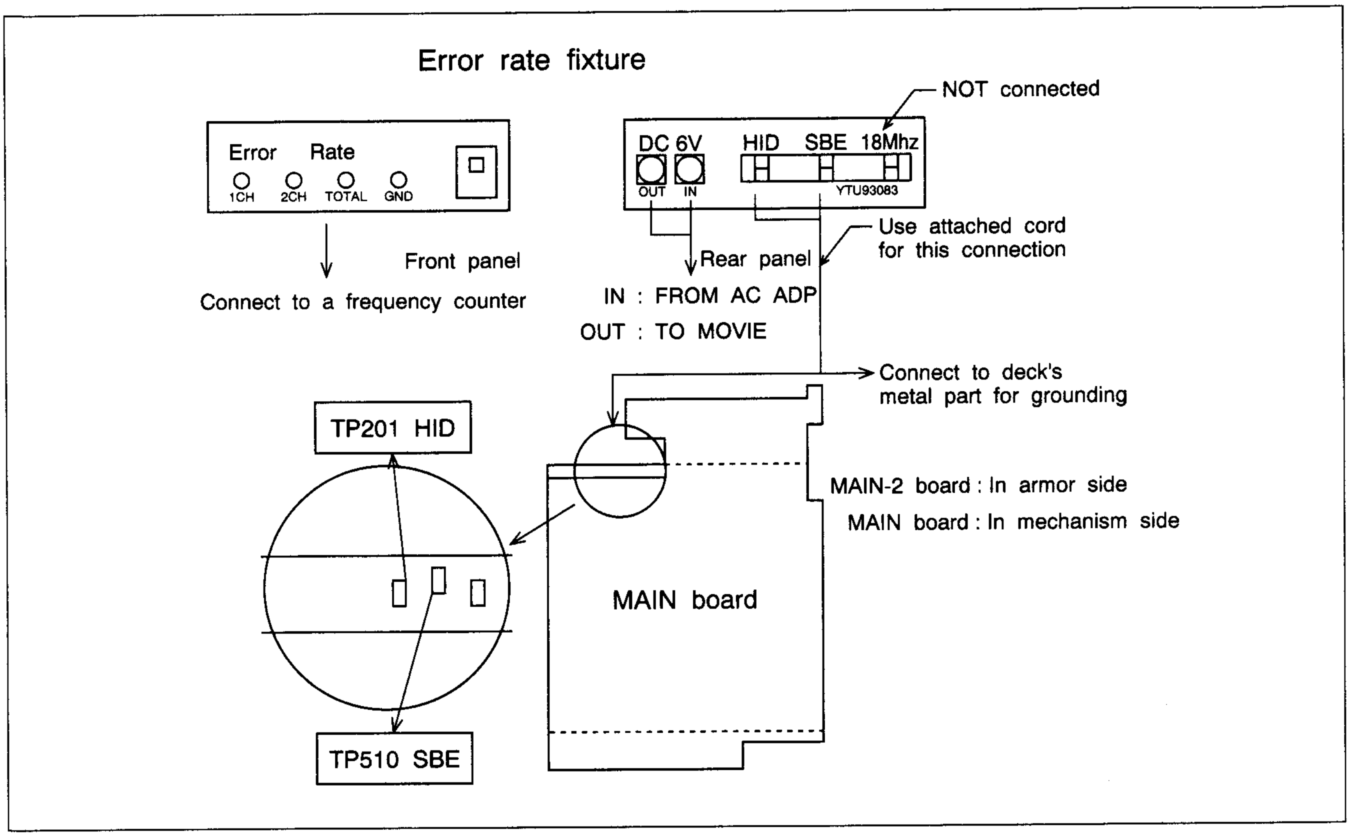

Error rate fixture
NOT connected
Error Rate
1CH
2CH
TOTAL
GND
DC 6V
HID
SBE
18Mhz
OUT
IN
YTU93083
Use attached cord for this connection
Front panel
Rear panel
Connect to a frequency counter
IN : FROM AC ADP
OUT : TO MOVIE
Connect to deck's metal part for grounding
TP201 HID
MAIN-2 board : In armor side
MAIN board : In mechanism side
MAIN board
TP510 SBE

Fig. 2-3-4 Connection of error rate fixture

Fig. 2-3-4 shows connection of the error rate fixture for error rate adjustment. Use the error rate fixture for frequency measurement as mentioned below.
First of all, prepare a blank cassette tape. (It is desirable to use new tape or unused portion.)

(1) Record the built-in color bar signal (See Sec. 6) and play it back for measurement.

(2) When playing back the recorded signal, change connection of the frequency counter to CH1, CH2 and TOTAL of the error rate fixture to measure respective frequencies.

- Note on frequency counter:
  Set the gating time of the frequency counter for 1 second.
  The frequency counter must be capable of indicating threshold level. For finding threshold level, turn the level control knob slowly from the positive side to negative side until the counter reads some value. Set the level control knob nearly at the midpoint between the threshold point and the utmost negative side. (Refer to Fig. 2-3-5.)

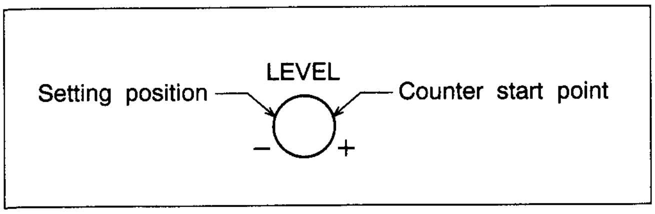

Setting position
LEVEL
Counter start point
−
+

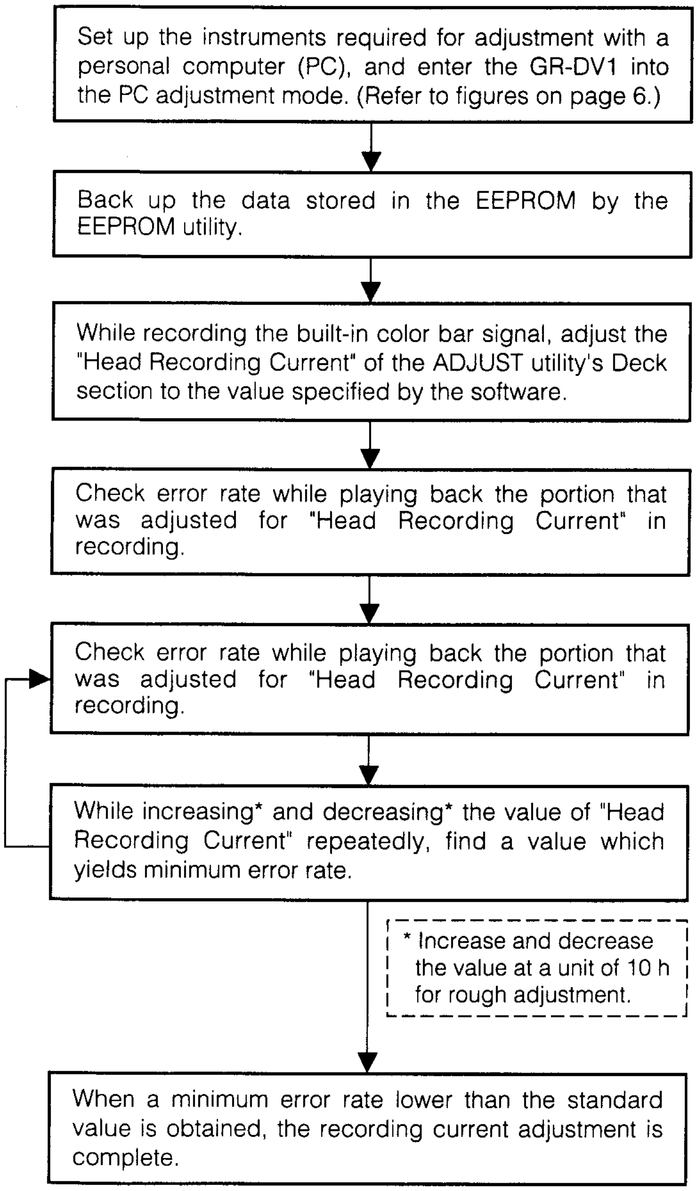
Fig. 2-3-5 Threshold level adjustment

(3) When the frequency counter indicates "1.3 kHz" for example, read "1300" (in error rate) for it. When checking or adjusting error rate of such a value, minimize it as available as possible aiming at maximum 1500 for one channel and maximum 3000 in total. When measured values are greatly differ between two channels, it is thinkable that there is a failure in the head or preamplifier shield.

2.3.4 Recording current adjustment

Procedure of recording current adjustment will be explained by the following flowchart.

When minimum error rate does not become lower than the standard value in spite of repeated adjustment, clean the tape transport system and the heads. If cleaning has no effect on the error rate, it is thinkable that there is a failure in the head or preamplifier shield.



Set up the instruments required for adjustment with a personal computer (PC), and enter the GR-DV1 into the PC adjustment mode. (Refer to figures on page 6.)

Back up the data stored in the EEPROM by the EEPROM utility.

While recording the built-in color bar signal, adjust the "Head Recording Current" of the ADJUST utility's Deck section to the value specified by the software.

Check error rate while playing back the portion that was adjusted for "Head Recording Current" in recording.

Check error rate while playing back the portion that was adjusted for "Head Recording Current" in recording.

While increasing* and decreasing* the value of "Head Recording Current" repeatedly, find a value which yields minimum error rate.

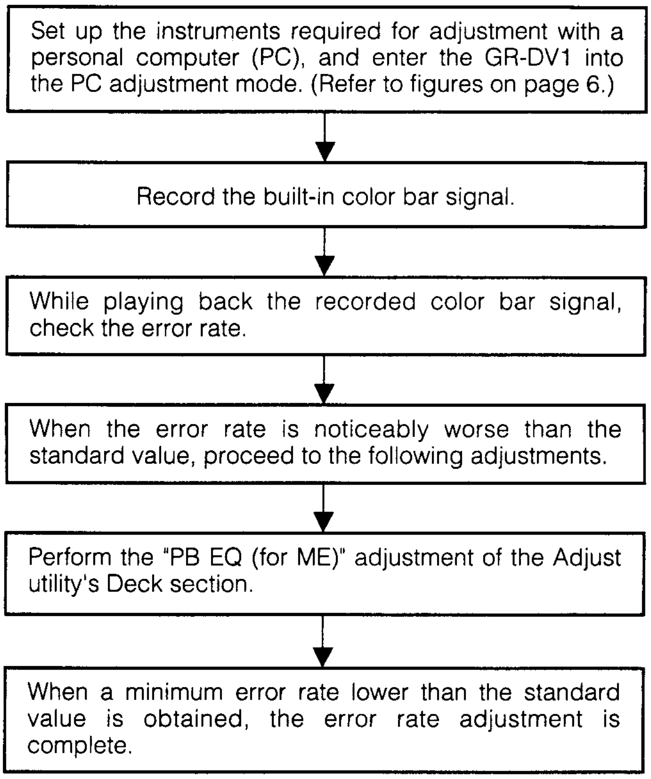
* Increase and decrease the value at a unit of 10 h for rough adjustment.

When a minimum error rate lower than the standard value is obtained, the recording current adjustment is complete.

2.3.5 Error rate adjustment

Procedure of error rate adjustment (PB EQ adjustment) will be explained in the following.

When minimum error rate does not become lower than the standard value in spite of repeated adjustment, clean the tape transport system and heads. If cleaning has no effect on the error rate, it is thinkable that there is a failure in the head, preamplifier shield or EQ circuit.



Set up the instruments required for adjustment with a personal computer (PC), and enter the GR-DV1 into the PC adjustment mode. (Refer to figures on page 6.)

Record the built-in color bar signal.

While playing back the recorded color bar signal, check the error rate.

When the error rate is noticeably worse than the standard value, proceed to the following adjustments.

Perform the "PB EQ (for ME)" adjustment of the Adjust utility's Deck section.

When a minimum error rate lower than the standard value is obtained, the error rate adjustment is complete.

2.3.6 Connection between GR-DV1 and personal computer when the SSS software is used for adjustment

Various connections between the GR-DV1 and a personal computer for adjustment are shown in Fig. 2-3-6 to Fig. 2-3-9.

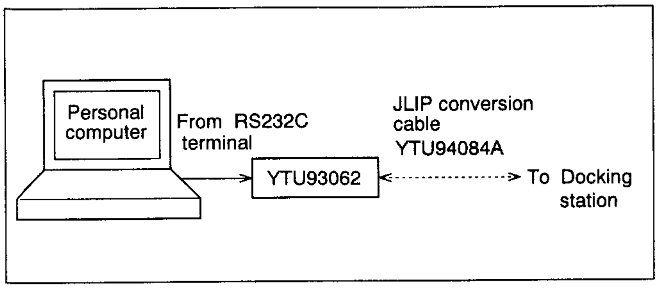

Personal computer
From RS232C terminal
YTU93062
JLIP conversion cable
YTU94084A
To Docking station

Fig. 2-3-6 Connection between PC and docking station when movie communication cable (YTU93062) is used

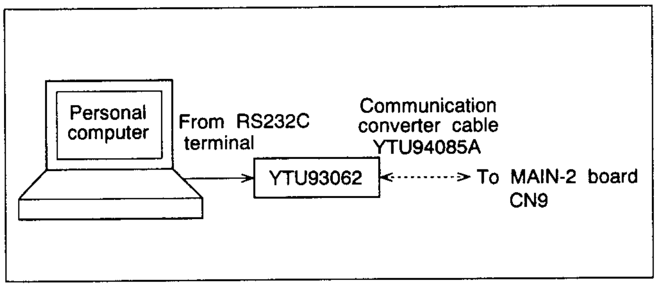

Personal computer
From RS232C terminal
YTU93062
Communication converter cable
YTU94085A
To MAIN-2 board CN9

Fig. 2-3-7 Connection between PC and CN9 of MAIN-2 board when movie communication cable (YTU93062) is used

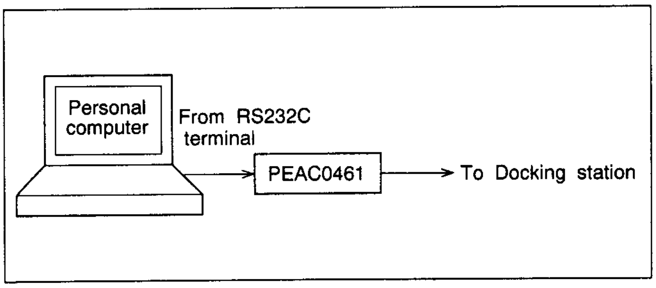

Personal computer
From RS232C terminal
PEAC0461
To Docking station

Fig. 2-3-8 Connection between PC and docking station when PC junction box (PEAC0461) is used

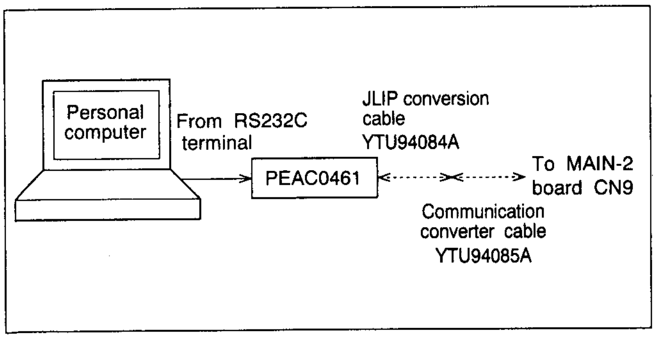

Personal computer
From RS232C terminal
PEAC0461
JLIP conversion cable
YTU94084A
To MAIN-2 board CN9
Communication converter cable
YTU94085A

Fig. 2-3-9 Connection between PC and CN9 of MAIN-2 board when PC junction box (PEAC0461) is used

2.4 REMARKS

2.4.1 Cleaning

(1) For cleaning the upper drum (specially video heads), use finely-woven cotton cloth or Kimpipe after soaking it in alcohol. In this case, the drum should be cleaned while turning the upper drum counterclockwise without moving the cloth or Kimpipe.
After cleaning, wipe the drum with dry cotton clothor Kimpipe similarly according to the above procedures.

(Note)
- ***Be sure not to move the cloth vertically to the video head, since such movement will cause a damage to the video head.***
- ***Do not touch the copper plate above the upper drum.***

(2) For cleaning the tape traveling system parts other than the drum assembly, use finely-woven cloth or cotton swab after soaking it in alcohol.

(3) Prior to loading cassette tape after cleaning, make sure that the cleaned parts have been dried perfectly.

2.4.2 Oiling and greasing

(1) Although periodical oiling or greasing is not required, oil or grease should be applied to new parts whenever any parts have been replaced. In case the oil or grease on the other parts near the replacement parts has been fouled, apply oil or grease newly after wiping off such fouled oil or grease.

(2) Regarding the oiling and greasing positions, refer to the mechanism disassembly and assembly diagram in Fig. M3. Regarding the kinds of oil and grease to be used, refer to Table 2-4-1.

(3) After cleaning with alcohol, apply one or two drops of oil. When an excessive amount of oil has been applied, such oil will leak to the external parts and cause slippage of rotary and movable parts.

Lubricant	Name	Product No.	Symbol in drawing
Grease	Grease	KYODO-SH-P	AA
Oil	COSMO-HYDRO HV100	YTU94027	BB

Table 2-4-1 Grease and oil to be used

2.5 MECHANISM TIMING CHART

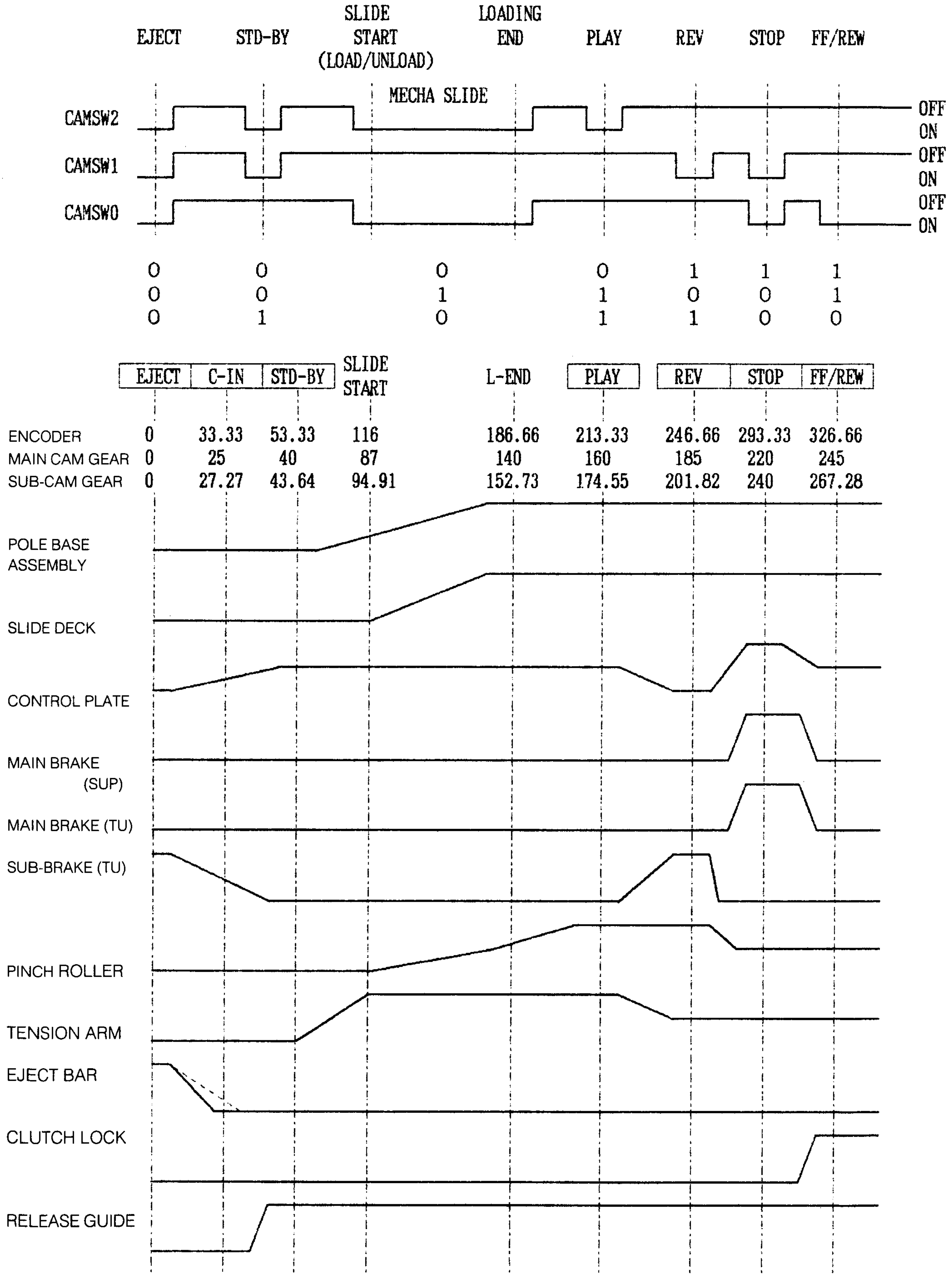


Fig. 2-5-1

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 PREPARATION BEFORE ADJUSTMENT

3.1.1 Precautions

The deck and camera sections of this model are of maintenance-free design. Since special adjustment using personal computer is needed in case the following parts have been replaced, however, such adjustment should be performed at the service center equipped with adjusting devices and tools.

- OP block
- E^2 PROM (Main 2 P.C. board IC818)

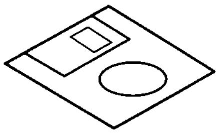
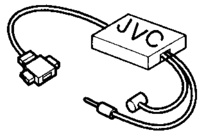
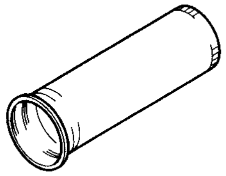
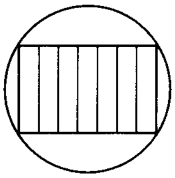
In case any trouble has arisen in the electrical circuit, be sure to detect the position in trouble by using measuring instruments at first. Then, perform repair or replacement and adjustment of the parts.

(1) When the chip TP is observed, use the IC clip and other appropriate tools so as to avoid excessive stress to the parts. Moreover, any chip parts (particularly IC parts) should replaced after thoroughly removing the solder (to prevent separation of pattern).
(2) The connection section, which is susceptible to damage, should be disconnected and connected so carefully as to protect the section from any damage.

3.1.2 Required test equipment

① Personal computer (compatible to "WINDOWS" machine)
② Color TV monitor set
③ Oscilloscope (dual-trace type, for more than 100MHz)
*300 MHz or over is recommended.
④ Digital voltmeter
⑤ AC power adapter (AA-V70)
⑥ DC power supply

3.1.3 Required adjustment tools

Service support system software YTU94057-16	Interface cable YTU93063
	
INF adjustment lens YTU92001B	Color bar chart YTU92001-051
	

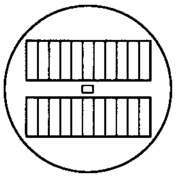
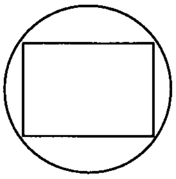
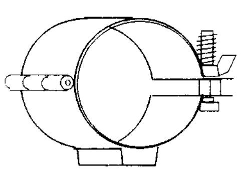
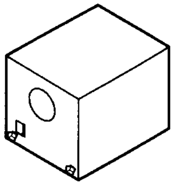
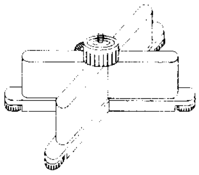
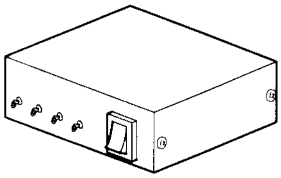
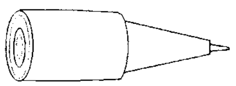
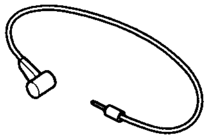
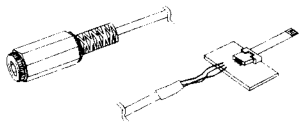
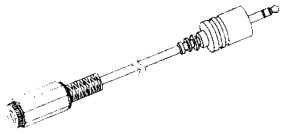
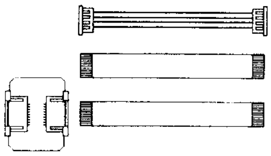
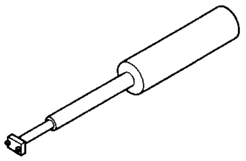
Gray scale chart YTU92001-052	White balance chart YTU92001-053
	
INF lens holder YTU94087	Light box YTU93072A
	
Camera stand YTU93079	Error rate YTU93083
	
Probe chip YTU94083	Adapter cable YTU94066
	
Communication converter cable YTU93085A	JLIP conversion cable YTU94084A
	
Patch cord YTU93084A	Guide driver YTU94085
	

Table 3-1-1 Requied adjustment tools

3.1.4 Setup

1. Setup for computer adjustment

– In case of using docking station –

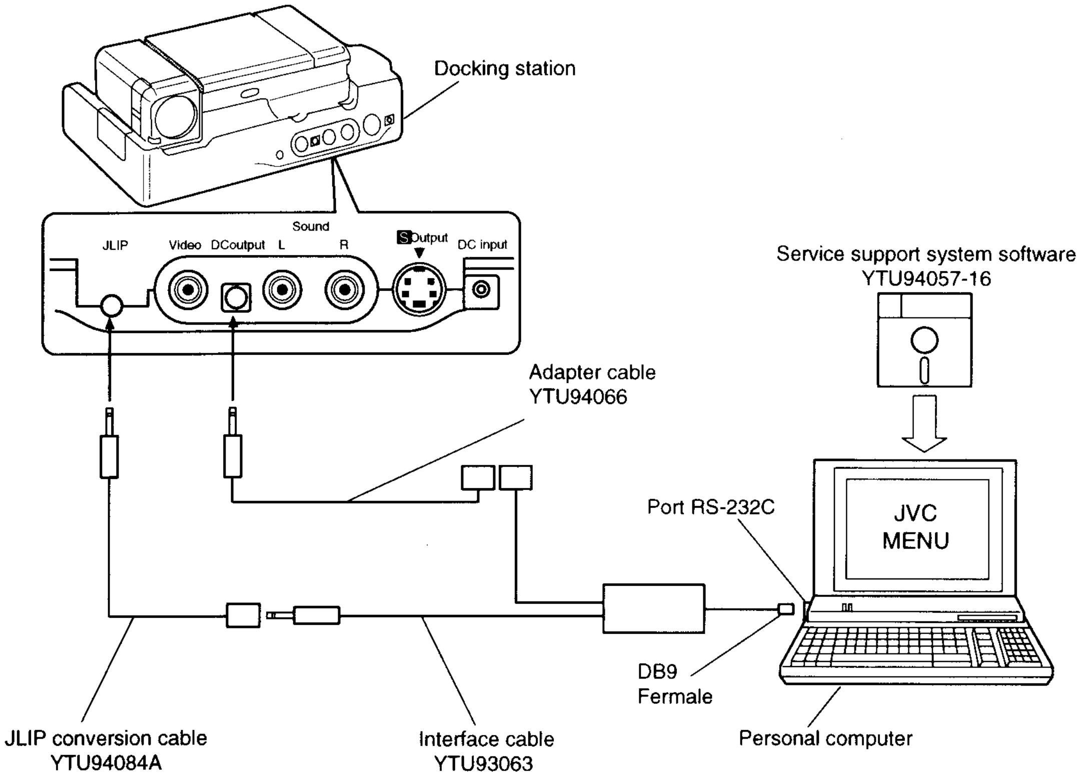

Docking station
Sound
JLIP
Video
DCoutput
L
R
S output
DC input
Service support system software
YTU94057-16
Adapter cable
YTU94066
Port RS-232C
JVC
MENU
DB9
Fermale
JLIP conversion cable
YTU94084A
Interface cable
YTU93063
Personal computer

Fig. 3-1-1 Setup for computer adjustment (A)

3.1.5 Setup for Computer Adjustment

– In case of single unit –

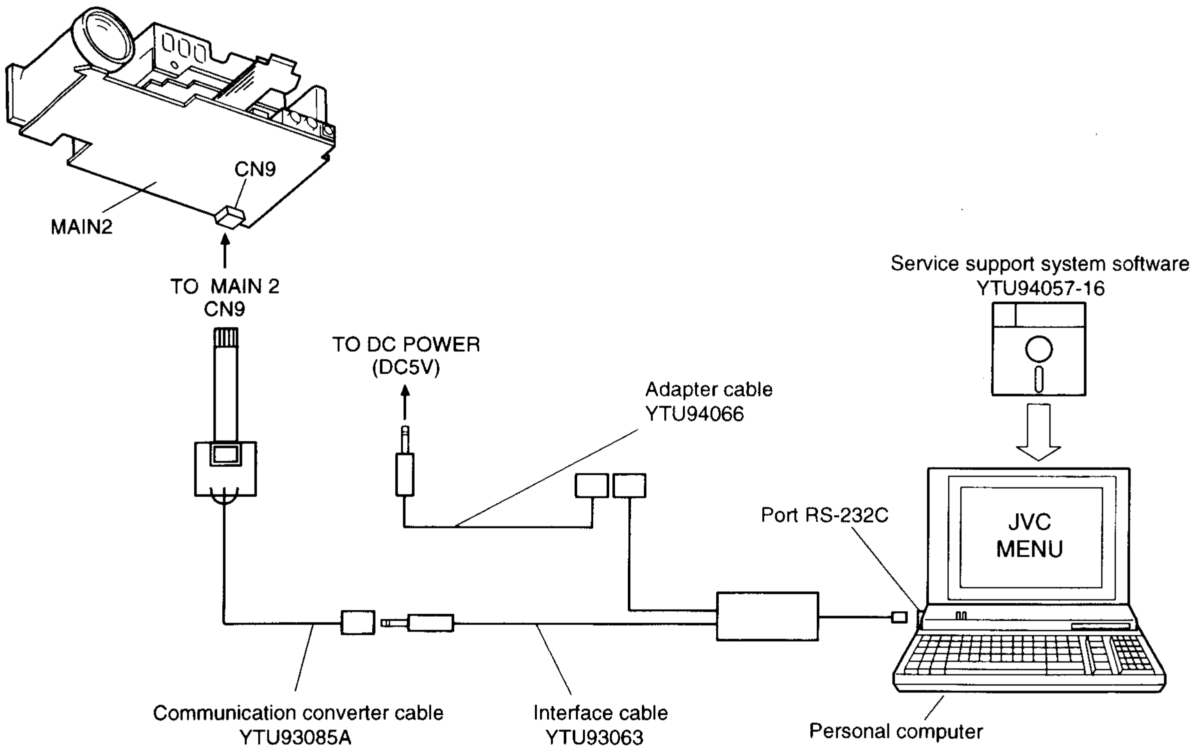

CN9
MAIN2
TO MAIN 2
CN9
TO DC POWER
(DC5V)
Adapter cable
YTU94066
Service support system software
YTU94057-16
Port RS-232C
JVC
MENU
Communication converter cable
YTU93085A
Interface cable
YTU93063
Personal computer

Fig. 3-1-2 Setup for computer adjustment (B)

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufactures recommended parts.

1. Units of components on the schematic diagram

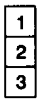
Unless otherwise specified.

1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or IN4148M (refer to parts list).

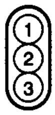
2. Indications of control voltage

AUX : Active only at high.
$\overline{\text{AUX}}$ or AUX(L) : Active at low.

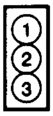
3. Interpreting Connector Indications



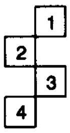
Removable connector



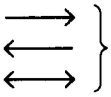
Wire soldered directly on board



Non-removable Board connector



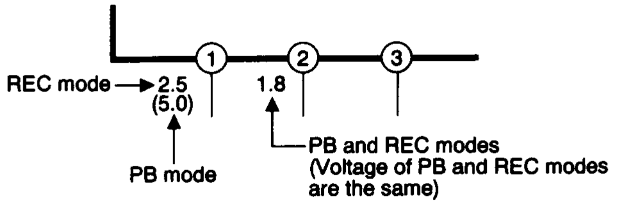
Board to Board



Connected pattern on board

4. Voltage measurement

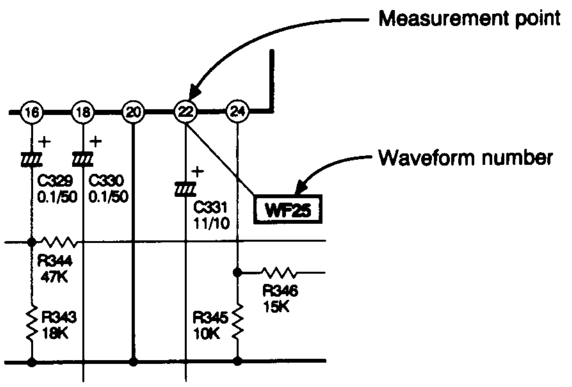
1) Video circuits
   REC : Colour bar signal.
   PB : Alignment tape (Colour bar)
   — : Unmeasurable or unnecessary to measure.
2) Audio circuit
   REC : 1KHz, –8 dBs sine wave signal.
   PB : REC then playback it.
3) Movie Camera circuits
   Measured using a correctly illuminated grey scale or colour bar test charts in the E-E mode.
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.


1
2
3
REC mode
2.5
(5.0)
1.8
PB mode
PB and REC modes
(Voltage of PB and REC modes are the same)

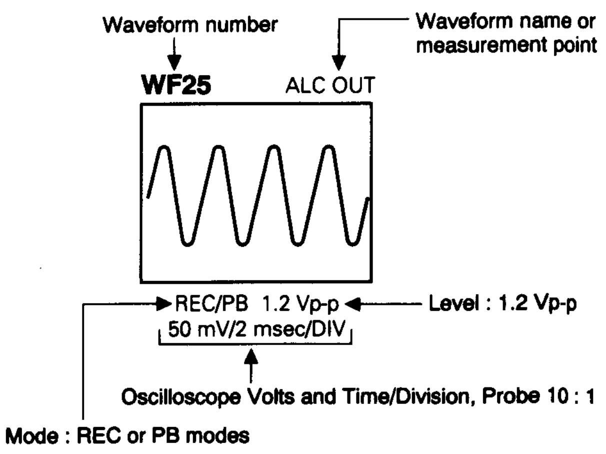
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal.
   PB : Alignment tape (Colour bar)
2) Audio circuits
   REC : 1kHz, –8 dBs sine wave signal.
   PB : REC then playback it.
3) Movie Camera circuits
   Measured using a correctly illuminated grey scale or colour bar test chatrs in the E-E mode.
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.


Measurement point
16
18
20
22
24
Waveform number
C329
0.1/50
C330
0.1/50
C331
11/10
WF25
R344
47K
R343
18K
R345
10K
R346
15K

5) Waveform indications


Waveform number
Waveform name or measurement point
WF25
ALC OUT
REC/PB 1.2 Vp-p
Level : 1.2 Vp-p
50 mV/2 msec/DIV
Oscilloscope Volts and Time/Division, Probe 10 : 1
Mode : REC or PB modes

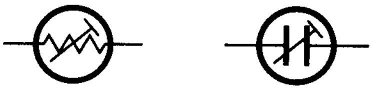
6. Signal path Symbols

The arrows indicate the signal path as follows.

⇨	Playback signal path
▭▶	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
■▷	Y signal path
⇨▷	Colour (Chroma) signal path
▭▶▷	R or R-Y signal path
➡▷	B or B-Y signal path
⇨▶	Capstan servo path
▭▶▶	Drum servo path
➡▶	Reel servo path

7. Indication of the parts for adjustments

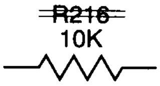
The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

Or the symbol number is struck off by two lines as below.



CIRCUIT BOARD NOTES

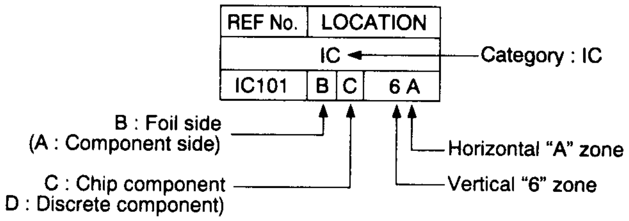
1. Foil and Component sides

1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.

2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

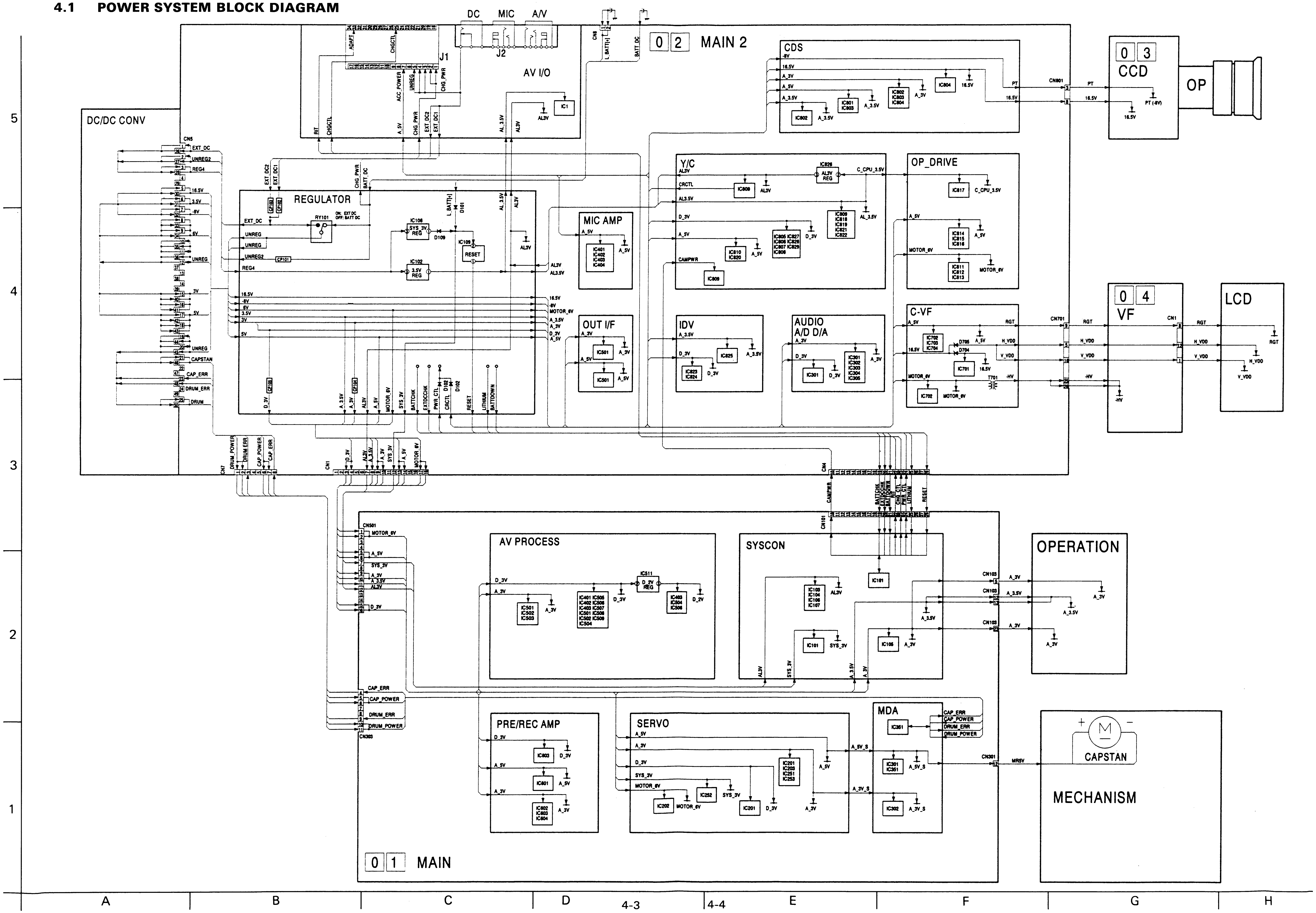
Parts location are indicated by guide scale on the circuit board.


REF No.
LOCATION
IC
IC101
B
C
6 A
Category : IC
B : Foil side
(A : Component side)
C : Chip component
D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

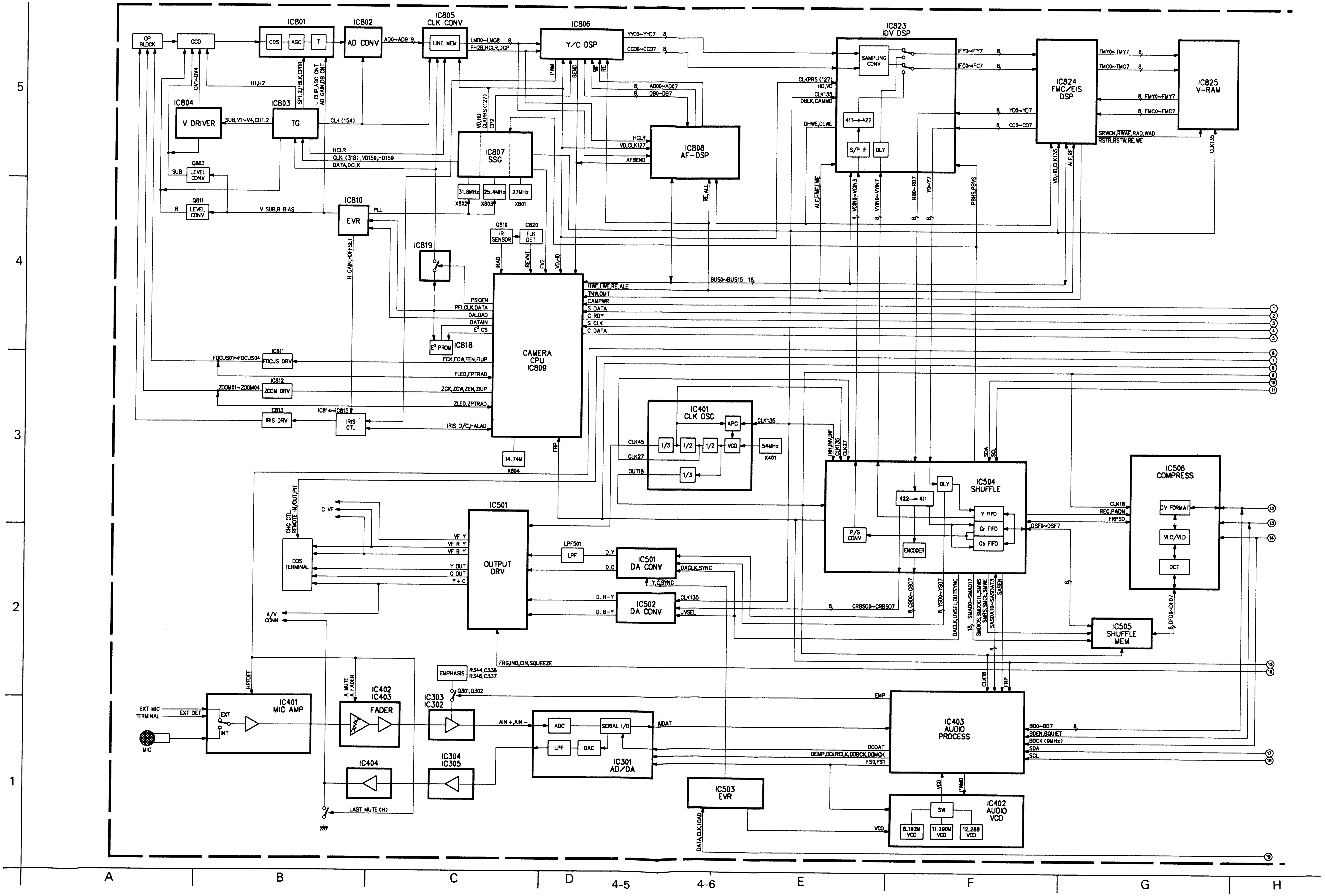
Notes:

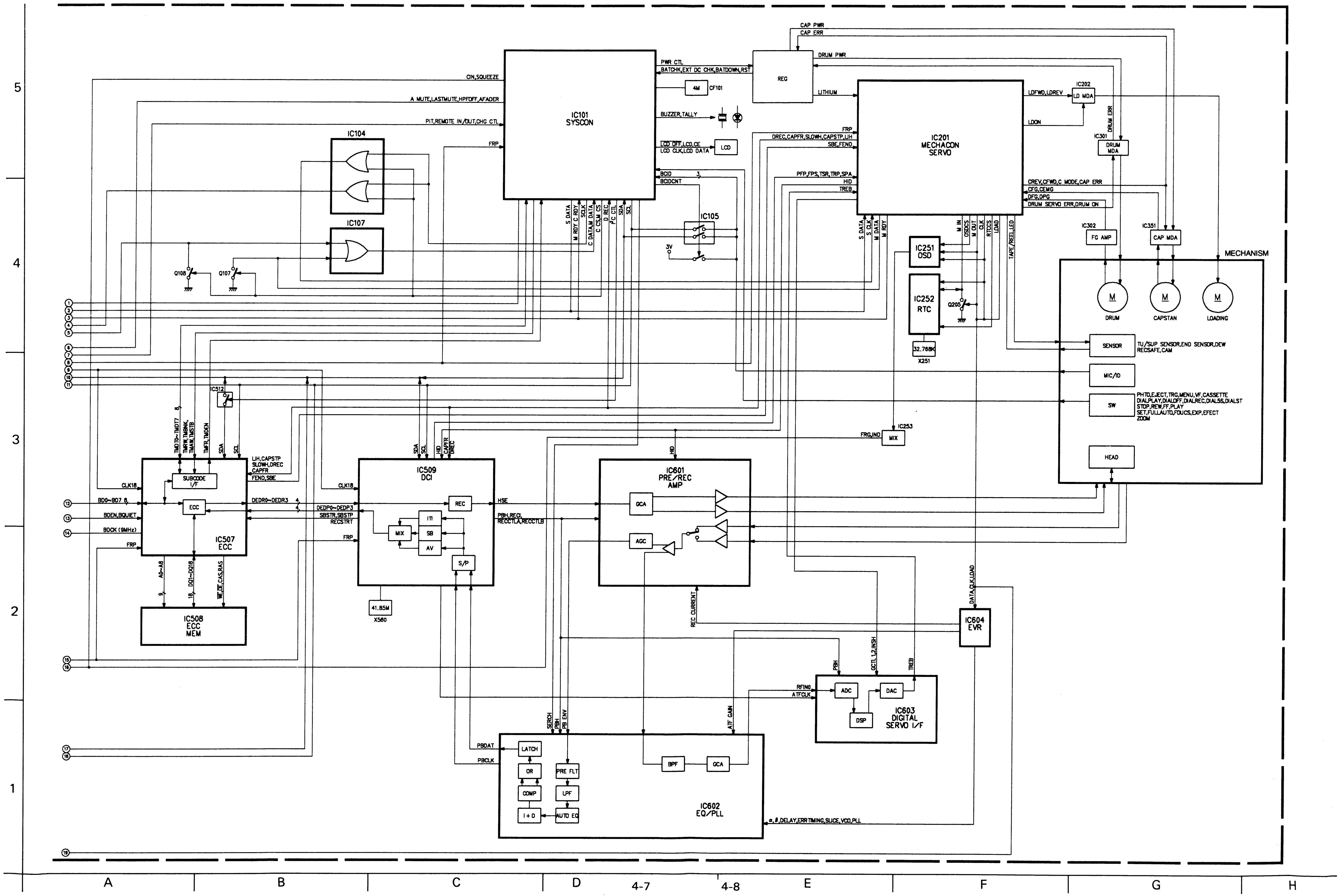
1) **For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).**
2) **For repairing SMC (Surface Mounted Components), please refer to the VIDEO SERVICE GUIDE No. VTS81001.**

4.1 POWER SYSTEM BLOCK DIAGRAM

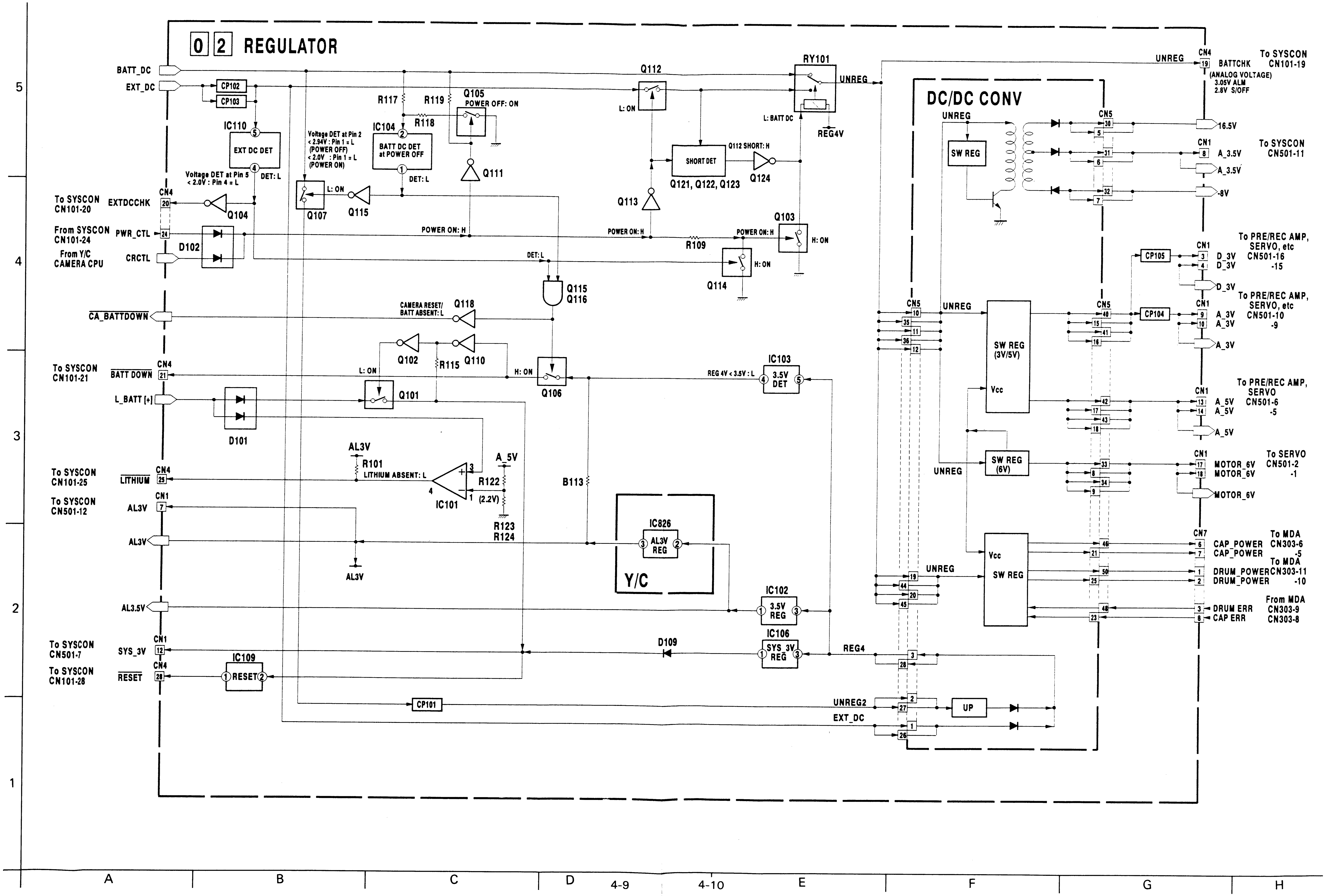

DC
MIC
A/V
J1
J2
AV I/O
IC1
0 2 MAIN 2
DC/DC CONV
CN5
EXT_DC
UNREG2
REG4
16.5V
3.5V
-8V
6V
UNREG
3V
5V
CAPSTAN
CAP_ERR
DRUM_ERR
DRUM
REGULATOR
RY101
IC106
SYS_3V REG
IC102
3.5V REG
IC109
RESET
D109
D101
D102
CP101
CDS
IC802
IC801
IC803
IC804
CN801
0 3
CCD
OP
Y/C
IC826
AL3V REG
C_CPU_3.5V
OP_DRIVE
IC817
MIC AMP
IC401
IC402
IC403
IC404
OUT I/F
IC501
IDV
IC825
IC823
IC824
AUDIO
A/D D/A
IC301
C-VF
IC701
IC702
T701
CN701
0 4
VF
LCD
RGT
H_VDD
V_VDD
CN7
CN1
CN4
CN101
CN501
CN303
AV PROCESS
IC511
D_2V REG
SYSCON
IC161
IC101
IC105
CN103
OPERATION
PRE/REC AMP
SERVO
MDA
IC351
CN301
CAPSTAN
MECHANISM
0 1 MAIN
A
B
C
D
E
F
G
H
1
2
3
4
5

4.2 VIDEO & AUDIO SYSTEM BLOCK DIAGRAM


OP BLOCK
CCD
IC801
CDS
AGC
γ
IC802
AD CONV
IC805
CLK CONV
LINE MEM
IC806
Y/C DSP
IC823
IDV DSP
SAMPLING CONV
411→422
S/P IF
DLY
IC824
FMC/EIS
DSP
IC825
V-RAM
IC804
V DRIVER
IC803
TG
IC807
SSG
31.8MHz
25.4MHz
27MHz
X802
X803
X801
IC808
AF-DSP
Q803
LEVEL CONV
Q811
LEVEL CONV
IC810
EVR
Q810
IR SENSOR
IC820
FLK DET
IC819
E² PROM
IC818
CAMERA
CPU
IC809
IC811
FOCUS DRV
IC812
ZOOM DRV
IC813
IRIS DRV
IC814~IC815
IRIS CTL
14.74M
X804
IC401
CLK OSC
1/3
1/2
1/2
VCO
APC
54MHz
X401
1/3
IC504
SHUFFLE
422→411
DLY
Y FIFO
Cr FIFO
Cb FIFO
P/S CONV
ENCODER
IC506
COMPRESS
DV FORMAT
VLC/VLD
DCT
IC505
SHUFFLE
MEM
IC501
OUTPUT
DRV
LPF501
LPF
IC501
DA CONV
IC502
DA CONV
DOS TERMINAL
C VF
A/V CONN
EXT MIC TERMINAL
MIC
IC401
MIC AMP
EXT
INT
IC402
IC403
FADER
IC404
EMPHASIS
R344,C336
R346,C337
Q301,Q302
IC303
IC302
IC304
IC305
ADC
SERIAL I/O
LPF
DAC
IC301
AD/DA
IC503
EVR
IC403
AUDIO
PROCESS
IC402
AUDIO
VCO
SW
8.192M VCO
11.290M VCO
12.288 VCO
LAST MUTE (H)
A
B
C
D
E
F
G
H
1
2
3
4
5

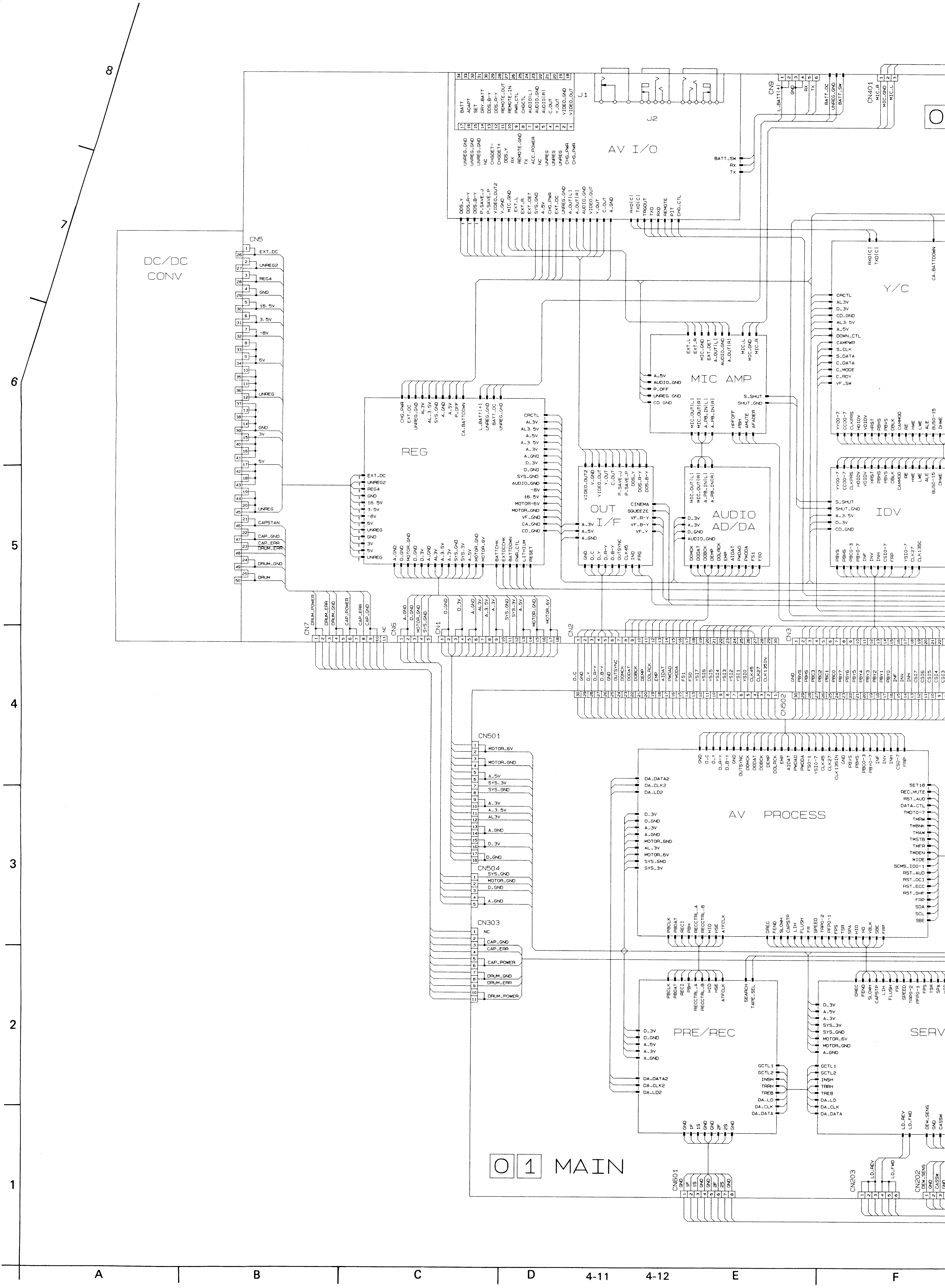

5
4
3
2
1
A
B
C
D
E
F
G
H
IC101
SYSCON
CIN,SQUEEZE
A MUTE,LASTMUTE,HPFOFF,AFADER
PIT,REMOTE IN/OUT,CHG CTL
FRP
PWR CTL
BATCHK,EXT DC CHK,BATDOWN,RST
4M
CF101
BUZZER,TALLY
LCD OFF,LCD,CE
LCD CLK,LCD DATA
LCD
BCID
3
BCIDCNT
S DATA
M RDY C RDY
SCLK
C DATA,M DATA
C CS,M CS
D REC
I²C CTL
SDA
SCL
IC104
IC107
Q108
Q107
IC105
3V
REG
CAP PWR
CAP ERR
DRUM PWR
LITHIUM
IC201
MECHACON
SERVO
FRP
DREC,CAPFR,SLOWH,CAPSTP,LIH
SBE,FEND
PFP,FPS,TSR,TRP,SPA
HID
TREB
LDFWD,LDREV
IC202
LD MDA
LDON
DRUM ERR
IC301
DRUM
MDA
CREV,CFWD,C MODE,CAP ERR
CFG,CEMG
DFG,DPG
DRUM SERVO ERR,DRUM ON
S DATA
S CLK
M DATA
M RDY
M IN
OSDCS
M OUT
CLK
RTCCS
LOAD
TAPE/REEL LED
IC251
OSD
IC252
RTC
Q205
32.768K
X251
IC302
FG AMP
IC351
CAP MDA
MECHANISM
M
DRUM
M
CAPSTAN
M
LOADING
SENSOR
TU/SUP SENSOR,END SENSOR,DEW
RECSAFE,CAM
MIC/ID
SW
PHTO,EJECT,TRG,MENU,VF,CASSETTE
DIALPLAY,DIALOFF,DIALREC,DIAL5S,DIALST
STOP,REW,FF,PLAY
SET,FULLAUTO,FOUCS,EXP,EFECT
ZOOM
HEAD
IC253
MIX
FRG,IND
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
IC512
TMDT0~TMDT7
8
TMRW,TMBNK,
TMAW,TMSTB
TMFR,TMDEN
SDA
SCL
LIH,CAPSTP
SLOWH,DREC
CAPFR
FEND,SBE
CLK18
SUBCODE
I/F
ECC
⑫
BD0~BD7 8
⑬
BDEN,BQUIET
⑭
BDCK (9MHz)
FRP
IC507
ECC
DEDR0~DEDR3
4
DEDP0~DEDP3
4
SBSTR,SBSTP
RECSTRT
A0~A8
9
DQ1~DQ18
18
WE,OE,CAS,RAS
IC508
ECC
MEM
SDA
SCL
HID
CAPFR
DREC
IC509
DCI
CLK18
REC
ITI
MIX
SB
AV
S/P
FRP
41.85M
X560
HSE
PBH,RECI,
RECCTLA,RECCTLB
HID
IC601
PRE/REC
AMP
GCA
AGC
REC CURRENT
⑮
⑯
⑰
⑱
⑲
SERCH
PBH
PB ENV
PBDAT
PBCLK
LATCH
OR
COMP
I+D
PRE FLT
LPF
AUTO EQ
BPF
GCA
ATF GAIN
IC602
EQ/PLL
α,β,DELAY,ERRTIMING,SLICE,VCO,PLL
PBH
GCTL 1,2,INSH
TREB
RFINO
ATFCLK
ADC
DAC
DSP
IC603
DIGITAL
SERVO I/F
DATA,CLK,LOAD
IC604
EVR

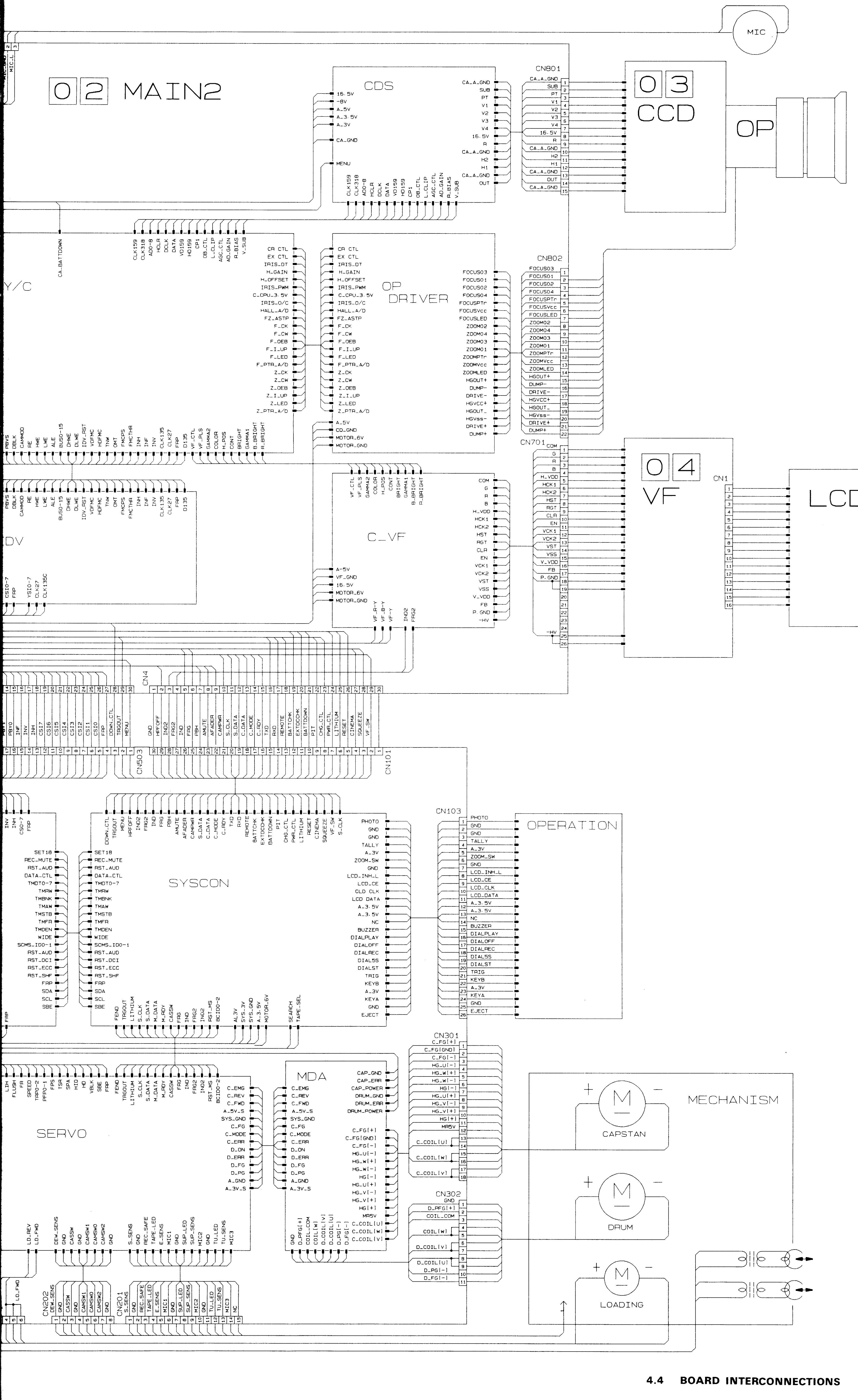
4.3 REGULATOR BLOCK DIAGRAM



02 REGULATOR
BATT_DC
EXT_DC
CP102
CP103
IC110
EXT DC DET
DET: L
Voltage DET at Pin 5 < 2.0V : Pin 4 = L
R117
R119
R118
IC104
BATT DC DET at POWER OFF
Voltage DET at Pin 2 < 2.94V : Pin 1 = L (POWER OFF) < 2.0V : Pin 1 = L (POWER ON)
Q105
POWER OFF: ON
Q111
Q107
L: ON
Q115
Q112
L: ON
Q113
SHORT DET
Q121, Q122, Q123
Q112 SHORT: H
Q124
RY101
L: BATT DC
REG4V
UNREG
Q103
H: ON
POWER ON: H
R109
Q114
H: ON
DET: L
Q115
Q116
To SYSCON CN101-20
EXTDCCHK
CN4
20
Q104
From SYSCON CN101-24
PWR_CTL
24
D102
From Y/C CAMERA CPU
CRCTL
CA_BATTDOWN
CAMERA RESET/ BATT ABSENT: L
Q118
Q102
Q110
R115
To SYSCON CN101-21
BATT DOWN
21
L: ON
H: ON
Q106
IC103
REG 4V < 3.5V : L
3.5V DET
L_BATT [+]
Q101
D101
AL3V
R101
LITHIUM ABSENT: L
IC101
A_5V
R122
(2.2V)
R123
R124
B113
To SYSCON CN101-25
LITHIUM
25
To SYSCON CN501-12
CN1
AL3V
7
AL3V
AL3V
IC826
AL3V REG
Y/C
AL3.5V
IC102
3.5V REG
To SYSCON CN501-7
SYS_3V
12
D109
IC106
SYS_3V REG
REG4
To SYSCON CN101-28
RESET
28
IC109
RESET
CP101
UNREG2
EXT_DC
UP
DC/DC CONV
UNREG
SW REG
CN5
16.5V
-8V
To SYSCON CN101-19
BATTCHK
(ANALOG VOLTAGE) 3.05V ALM 2.8V S/OFF
To SYSCON CN501-11
A_3.5V
A_3.5V
CP105
To PRE/REC AMP, SERVO, etc CN501-16 -15
D_3V
D_3V
D_3V
SW REG (3V/5V)
Vcc
CP104
To PRE/REC AMP, SERVO, etc CN501-10 -9
A_3V
A_3V
A_3V
To PRE/REC AMP, SERVO CN501-6 -5
A_5V
A_5V
A_5V
SW REG (6V)
To SERVO CN501-2 -1
MOTOR_6V
MOTOR_6V
MOTOR_6V
CN7
To MDA CN303-6 -5
CAP_POWER
CAP_POWER
To MDA CN303-11 -10
DRUM_POWER
DRUM_POWER
From MDA CN303-9 CN303-8
DRUM ERR
CAP ERR
1
2
3
4
5
A
B
C
D
E
F
G
H

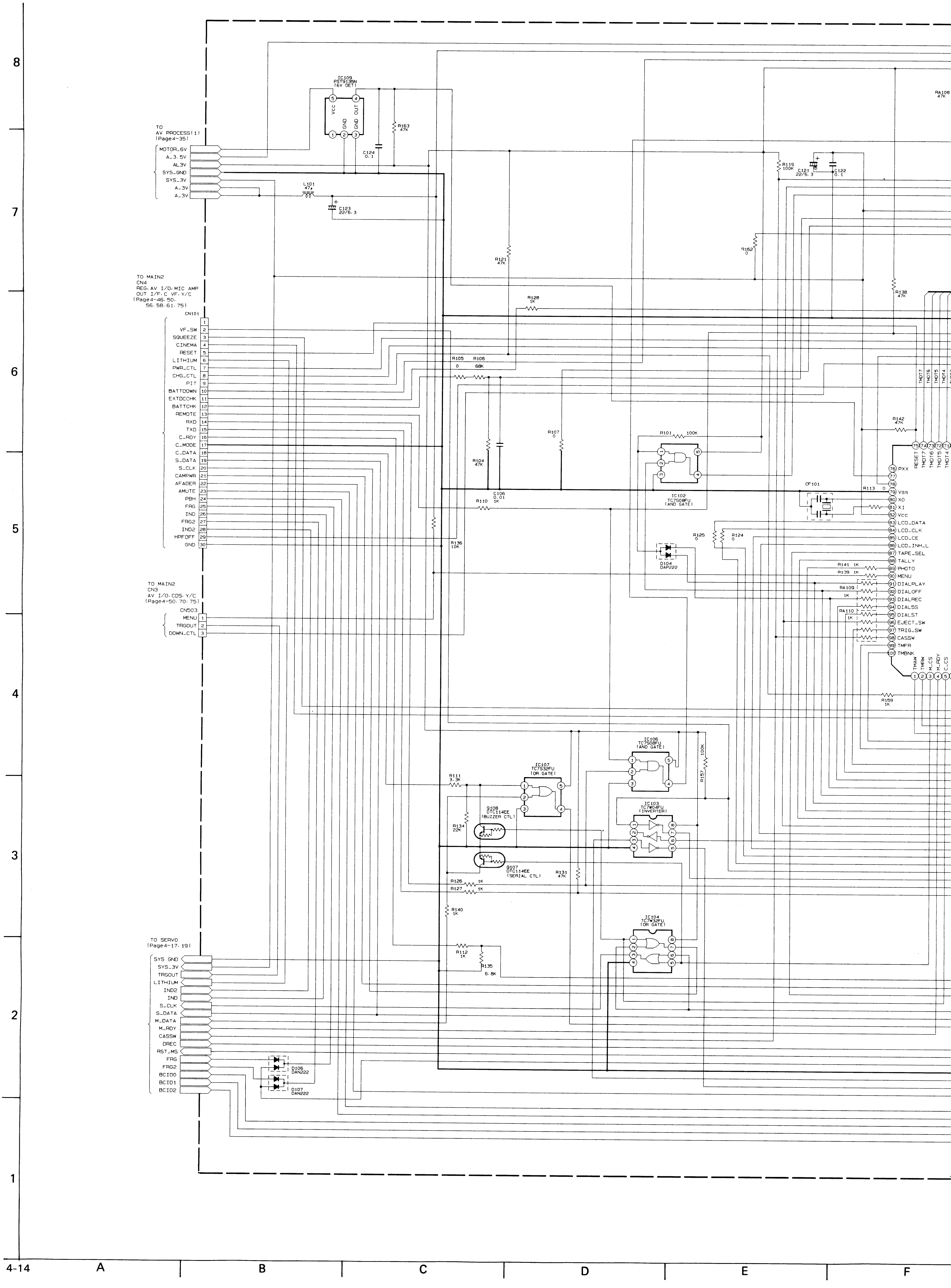
4.4 BOARD INTERCONNECTIONS


DC/DC CONV
CN5
AV I/O
J1
J2
CN9
CN401
MIC AMP
Y/C
REG
OUT I/F
AUDIO AD/DA
IDV
CN7
CN6
CN1
CN2
CN3
CN502
CN501
CN504
CN303
AV PROCESS
PRE/REC
SERV
01 MAIN
CN601
CN203
CN202

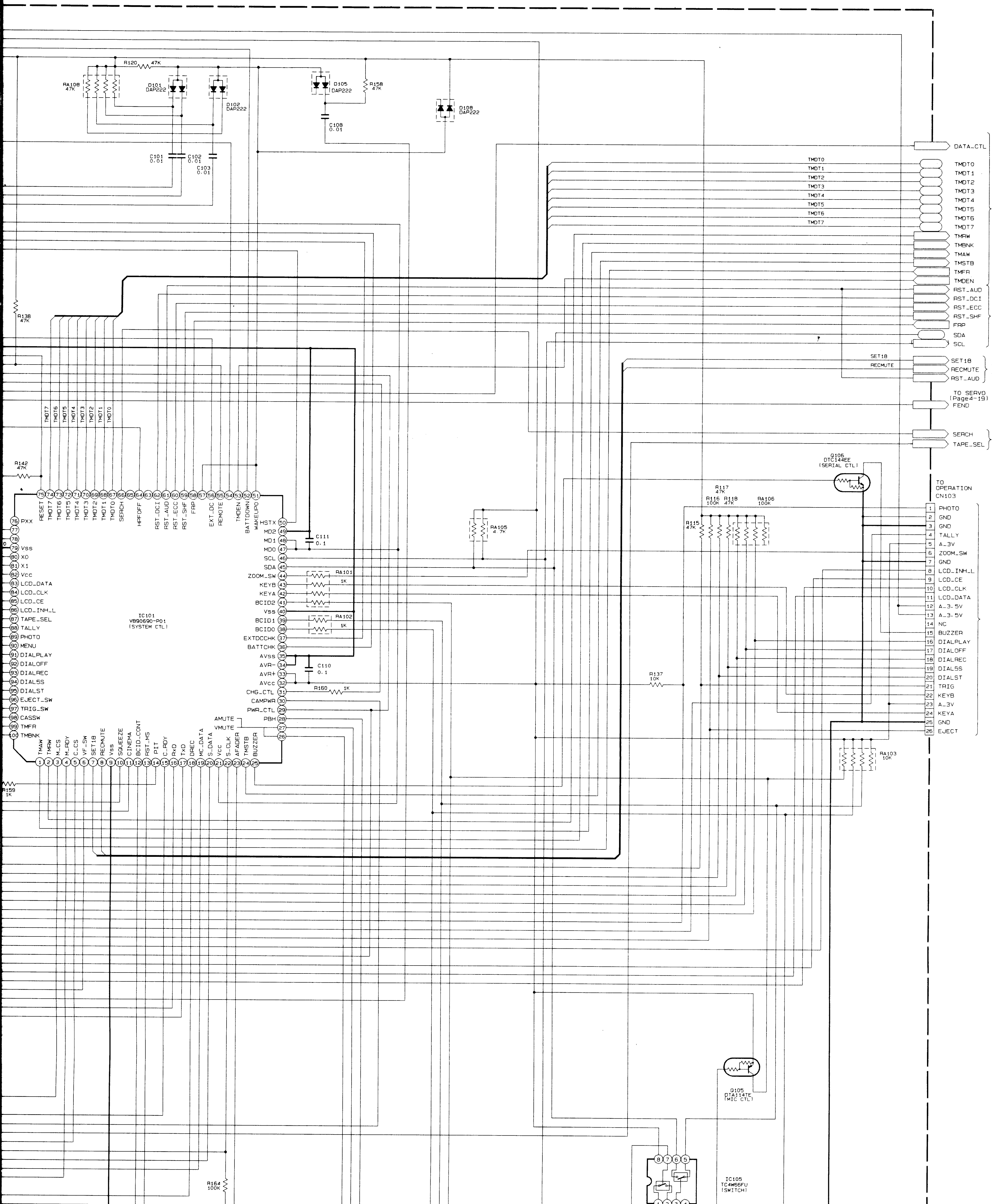

MIC
02 MAIN2
CDS
CN801
03 CCD
OP
Y/C
OP DRIVER
CN802
CN701
04 VF
CN1
LCD
DV
C_VF
CN4
CN503
CN101
CN103
SYSCON
OPERATION
CN301
MDA
SERVO
MECHANISM
CAPSTAN
DRUM
LOADING
CN302
CN202
CN201

4.4 BOARD INTERCONNECTIONS

4.5 SYSCON SCHEMATIC DIAGRAM

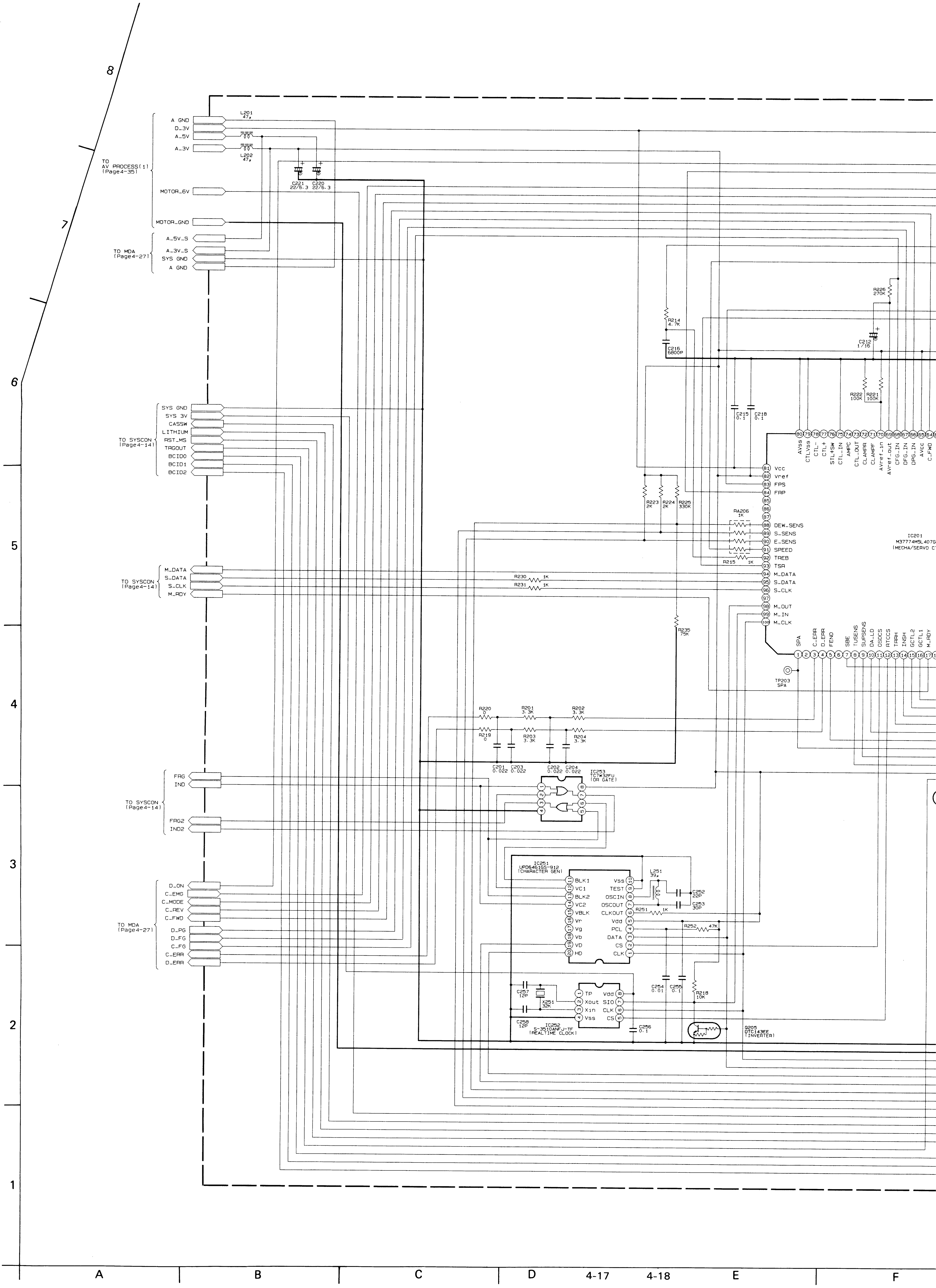


8
7
6
5
4
3
2
1
A
B
C
D
E
F
TO AV PROCESS(1) (Page4-35)
MOTOR_6V
A_3.5V
AL3V
SYS_GND
SYS_3V
A_3V
A_3V
IC109 PST9135N (6V DET)
VCC
OUT
GND
GND
R163 47K
C124 0.1
L101 47µ
C123 22/6.3
R121 47K
R119 100K
C121 22/6.3
C122 0.1
R162 0
RA108 47K
R138 47K
TO MAIN2 CN4 REG, AV I/O, MIC AMP OUT I/F, C VF, Y/C (Page4-46, 50, 56, 58, 61, 75)
CN101
VF_SW
SQUEEZE
CINEMA
RESET
LITHIUM
PWR_CTL
CHG_CTL
PIT
BATTDOWN
EXTDCCHK
BATTCHK
REMOTE
RXD
TXD
C_RDY
C_MODE
C_DATA
S_DATA
S_CLK
CAMPWR
AFADER
AMUTE
PBH
FRG
IND
FRG2
IND2
HPFOFF
GND
R128 1K
R105 0
R106 68K
R104 47K
C106 0.01
R107 0
R110 1K
R136 10K
R101 100K
IC102 TC7S08FU (AND GATE)
R125 0
R124 0
D104 DAP222
CF101
R113 0
R142 47K
TMDT7
TMDT6
TMDT5
TMDT4
RESET
PXX
VSS
XO
X1
Vcc
LCD_DATA
LCD_CLK
LCD_CE
LCD_INH_L
TAPE_SEL
TALLY
PHOTO
MENU
DIALPLAY
DIALOFF
DIALREC
DIAL5S
DIALST
EJECT_SW
TRIG_SW
CASSW
TMFR
TMBNK
R141 1K
R139 1K
RA109 1K
RA110 1K
TMAW
TMRW
M_CS
M_RDY
C_CS
R159 1K
TO MAIN2 CN3 AV I/O, CDS, Y/C (Page4-50, 70, 75)
CN503
MENU
TRGOUT
DOWN_CTL
IC106 TC7S08FU (AND GATE)
R157 100K
IC107 TC7S32FU (OR GATE)
R111 3.3K
Q108 DTC114EE (BUZZER CTL)
R134 22K
IC103 TC7W04FU (INVERTER)
Q107 DTC114EE (SERIAL CTL)
R131 47K
R126 1K
R127 1K
R140 1K
IC104 TC7W32FU (OR GATE)
R112 1K
R135 6.8K
TO SERVO (Page4-17, 19)
SYS GND
SYS_3V
TRGOUT
LITHIUM
IND2
IND
S_CLK
S_DATA
M_DATA
M_RDY
CASSW
DREC
RST_MS
FRG
FRG2
BCID0
BCID1
BCID2
D106 DAN222
D107 DAN222

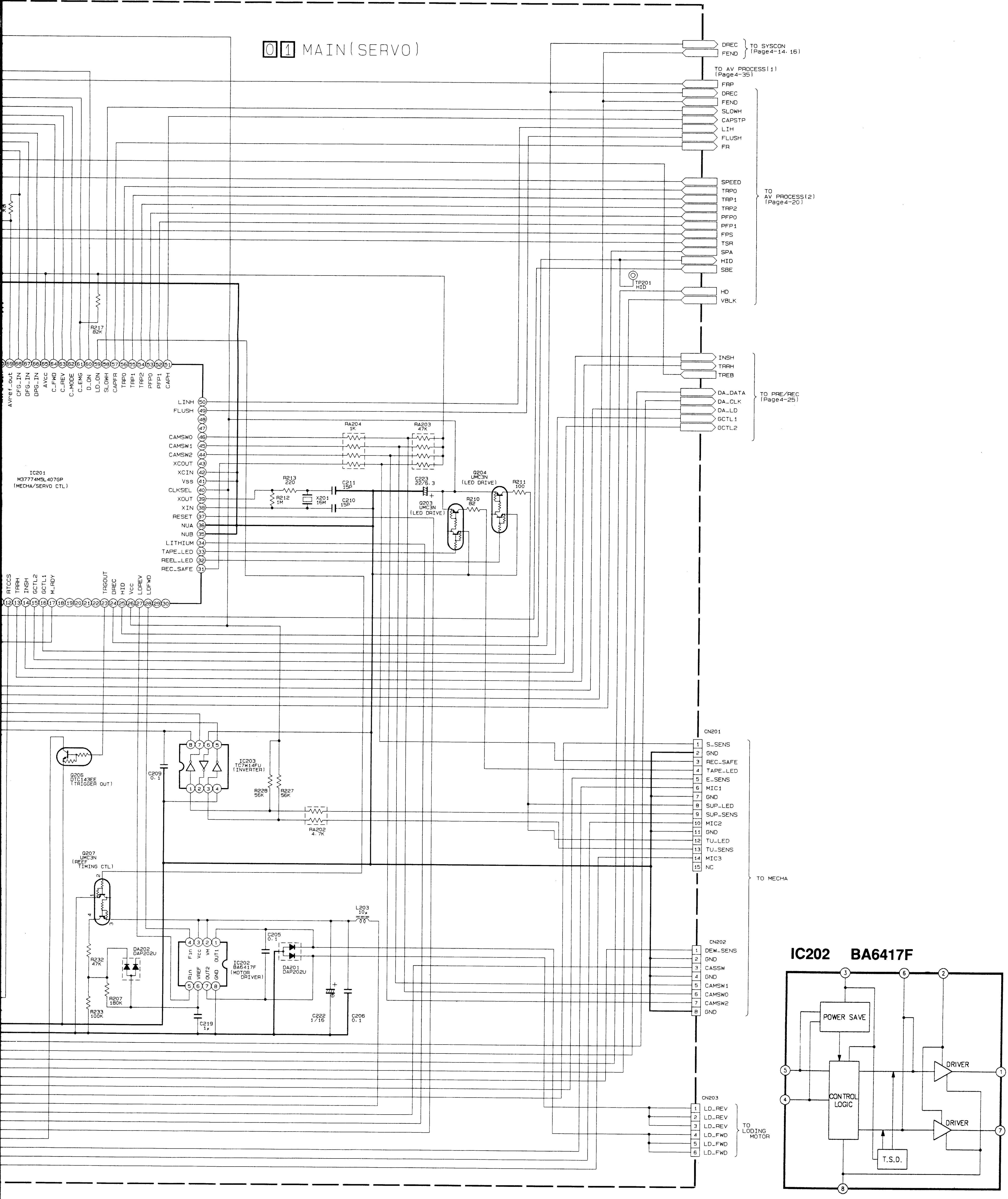

R120 47K
RA108 47K
D101 DAP222
D102 DAP222
D105 DAP222
R158 47K
D108 DAP222
C108 0.01
C101 0.01
C102 0.01
C103 0.01
R138 47K
R142 47K
R159 1K
DATA_CTL
TMDT0
TMDT1
TMDT2
TMDT3
TMDT4
TMDT5
TMDT6
TMDT7
TO AV PROCESS(2) (Page4-20)
TMRW
TMBNK
TMAW
TMSTB
TMFR
TMDEN
RST_AUD
RST_DCI
RST_ECC
RST_SHF
FRP
SDA
SCL
TO AV PROCESS(1) (Page4-35)
SET18
RECMUTE
RST_AUD
TO AV PROCESS(3) (Page4-31)
TO SERVO (Page4-19)
FEND
SERCH
TAPE_SEL
TO PRE/REC (Page4-25)
Q106 DTC144EE (SERIAL CTL)
TO OPERATION CN103
1 PHOTO
2 GND
3 GND
4 TALLY
5 A_3V
6 ZOOM_SW
7 GND
8 LCD_INH_L
9 LCD_CE
10 LCD_CLK
11 LCD_DATA
12 A_3.5V
13 A_3.5V
14 NC
15 BUZZER
16 DIALPLAY
17 DIALOFF
18 DIALREC
19 DIAL5S
20 DIALST
21 TRIG
22 KEYB
23 A_3V
24 KEYA
25 GND
26 EJECT
R117 47K
R116 100K
R118 47K
RA106 100K
R115 47K
RA105 4.7K
RA101 1K
RA102 1K
C111 0.1
C110 0.1
R160 1K
R137 10K
RA103 10K
IC101 VB90690-P01 (SYSTEM CTL)
75 RESET
74 TMDT7
73 TMDT6
72 TMDT5
71 TMDT4
70 TMDT3
69 TMDT2
68 TMDT1
67 TMDT0
66 SERCH
65
64 HPFOFF
63
62 RST_DCI
61 RST_AUD
60 RST_ECC
59 RST_SHF
58 FRP
57
56 EXT_DC
55 REMOTE
54
53 TMDEN
52 BATTDOWN
51 WAKEUP0
50 HSTX
49 MD2
48 MD1
47 MD0
46 SCL
45 SDA
44 ZOOM_SW
43 KEYB
42 KEYA
41 BCID2
40 Vss
39 BCID1
38 BCID0
37 EXTDCCHK
36 BATTCHK
35 AVSS
34 AVR-
33 AVR+
32 AVCC
31 CHG_CTL
30 CAMPWR
29 PWR_CTL
28 PBH
27
26
AMUTE
VMUTE
76 PXX
77
78
79 Vss
80 X0
81 X1
82 Vcc
83 LCD_DATA
84 LCD_CLK
85 LCD_CE
86 LCD_INH_L
87 TAPE_SEL
88 TALLY
89 PHOTO
90 MENU
91 DIALPLAY
92 DIALOFF
93 DIALREC
94 DIAL5S
95 DIALST
96 EJECT_SW
97 TRIG_SW
98 CASSW
99 TMFR
100 TMBNK
1 TMAW
2 TMRW
3 M_CS
4 M_RDY
5 C_CS
6 VF_SW
7 SET18
8 RECMUTE
9 Vss
10 SQUEEZE
11 CINEMA
12 BCID_CONT
13 RST_MS
14 PIT
15 C_RDY
16 RXD
17 TXD
18 DREC
19 MC_DATA
20 S_DATA
21 Vcc
22 S_CLK
23 AFADER
24 TMSTB
25 BUZZER
Q105 DTA114TE (MIC CTL)
IC105 TC4W66FU (SWITCH)
8 7 6 5
1 2 3 4
R164 100K
01 MAIN(SYSCON)

4.5 SYSCON SCHEMATIC DIAGRAM

4.6 SERVO SCHEMATIC DIAGRAM

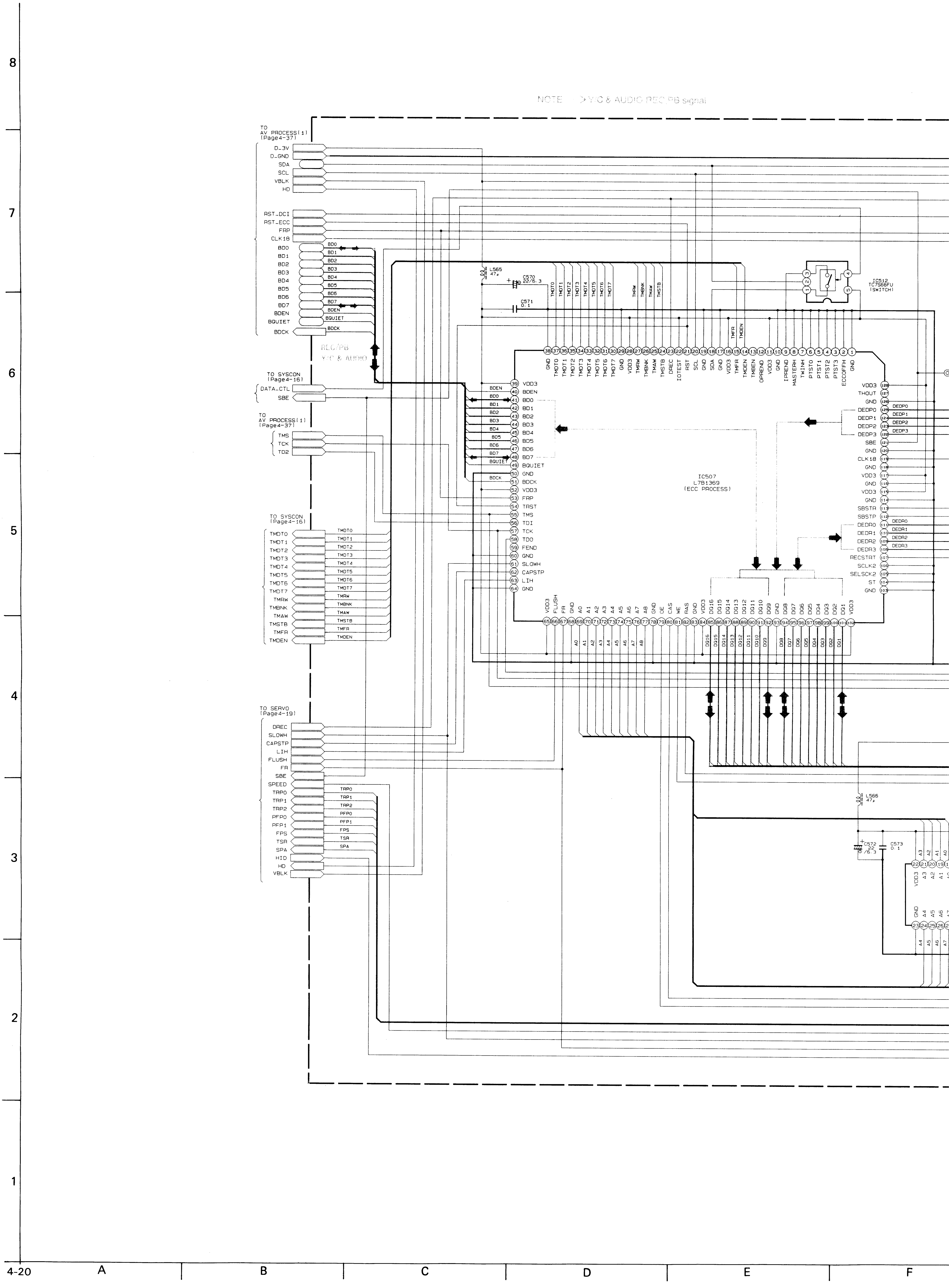


8
7
6
5
4
3
2
1
A
B
C
D
E
F
L201
47μ
L202
47μ
A GND
D_3V
A_5V
A_3V
TO
AV PROCESS(1)
(Page4-35)
MOTOR_6V
MOTOR_GND
C221
22/6.3
C220
22/6.3
A_5V_S
A_3V_S
SYS GND
A GND
TO MDA
(Page4-27)
SYS GND
SYS 3V
CASSW
LITHIUM
RST_MS
TRGOUT
BCID0
BCID1
BCID2
TO SYSCON
(Page4-14)
M_DATA
S_DATA
S_CLK
M_RDY
TO SYSCON
(Page4-14)
R230 1K
R231 1K
R226
270K
R214
4.7K
C216
6800P
C212
1/16
R222
100K
R221
100K
C215
0.1
C218
0.1
R223
2K
R224
2K
R225
330K
RA206
1K
R215 1K
R235
75K
80 AVss
79 CTLVss
78 CTL-
77 CTL+
76 STL+SW
75 CTL_IN
74 AMPC
73 CTL_OUT
72 CLAMPR
71 CLAMPF
70 AVref_in
69 AVref_out
68 CFG_IN
67 DFG_IN
66 DPG_IN
65 AVcc
64 C_FWD
81 Vcc
82 Vref
83 FPS
84 FRP
85
86
87
88 DEW_SENS
89 S_SENS
90 E_SENS
91 SPEED
92 TREB
93 TSR
94 M_DATA
95 S_DATA
96 S_CLK
97
98 M_OUT
99 M_IN
100 M_CLK
1 SPA
2
3 C_ERR
4 D_ERR
5 FEND
6
7 SBE
8 TUSENS
9 SUPSENS
10 DA_LD
11 OSDCS
12 RTCCS
13 TRRH
14 INSH
15 GCTL2
16 GCTL1
17 M_RDY
IC201
M37774M5L407G
(MECHA/SERVO C
TP203
SPA
R220
0
R201
3.3K
R202
3.3K
R219
0
R203
3.3K
R204
3.3K
C201
0.022
C203
0.022
C202
0.022
C204
0.022
IC253
TC7W32FU
(OR GATE)
FRG
IND
FRG2
IND2
TO SYSCON
(Page4-14)
IC251
UPD6461GS-912
(CHARACTER GEN)
11 BLK1
12 VC1
13 BLK2
14 VC2
15 VBLK
16 Vr
17 Vg
18 Vb
19 VD
20 HD
10 Vss
9 TEST
8 OSCIN
7 OSCOUT
6 CLKOUT
5 Vdd
4 PCL
3 DATA
2 CS
1 CLK
L251
39μ
C252
22P
C253
30P
R251 1K
R252 47K
D_ON
C_EMG
C_MODE
C_REV
C_FWD
D_PG
D_FG
C_FG
C_ERR
D_ERR
TO MDA
(Page4-27)
C254
0.01
C255
0.1
R218
10K
C257
12P
X251
32K
C258
12P
1 TP
2 Xout
3 Xin
4 Vss
8 Vdd
7 SIO
6 CLK
5 CS
IC252
S-3510ANFJ-TF
(REALTIME CLOCK)
C256
0.1
Q205
DTC143EE
(INVERTER)

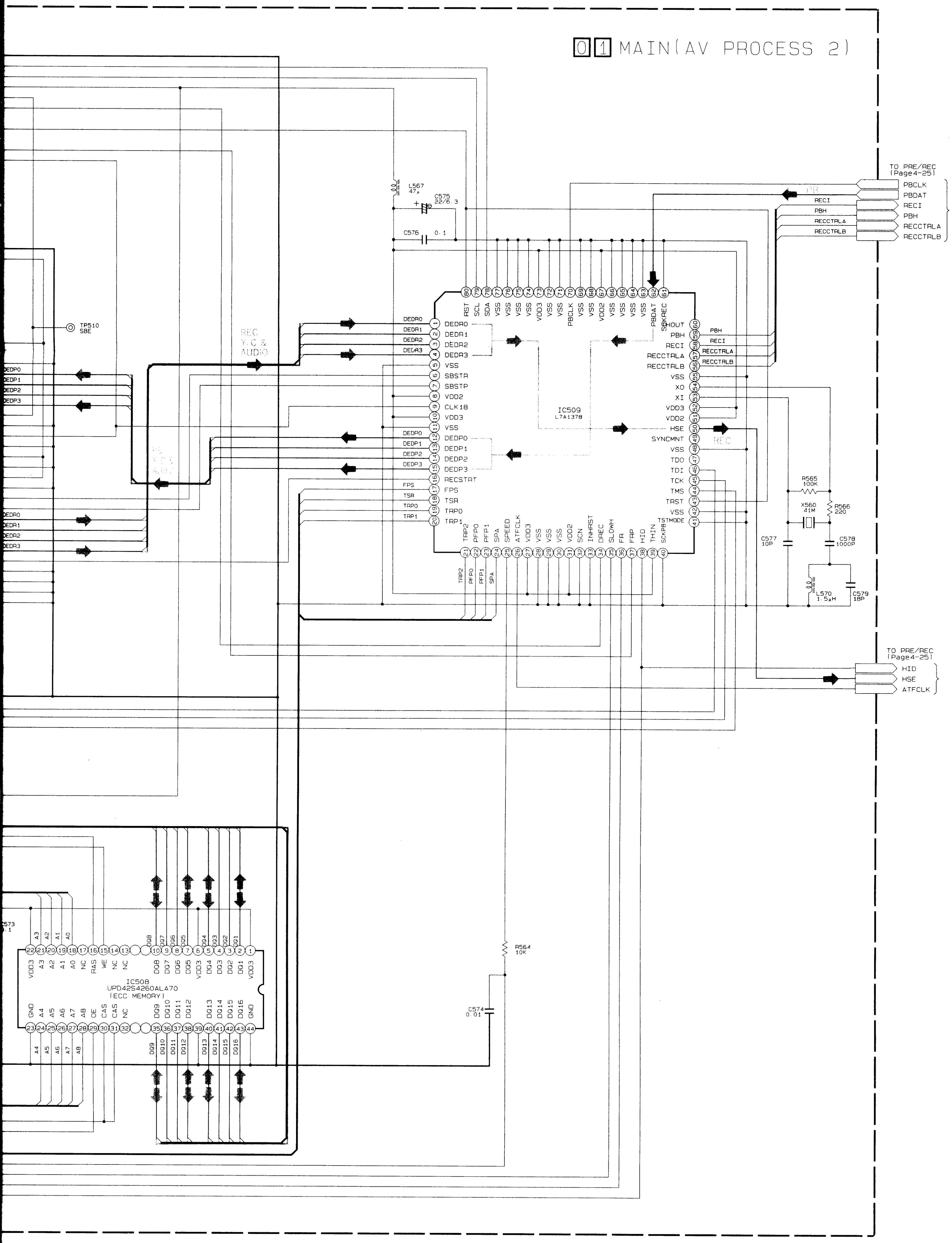

01 MAIN(SERVO)
DREC
FEND
TO SYSCON (Page4-14, 16)
TO AV PROCESS(1) (Page4-35)
FRP
DREC
FEND
SLOWH
CAPSTP
LIH
FLUSH
FR
SPEED
TRP0
TRP1
TRP2
PFP0
PFP1
FPS
TSR
SPA
HID
SBE
TO AV PROCESS(2) (Page4-20)
TP201 HID
HD
VBLK
INSH
TRRH
TREB
DA_DATA
DA_CLK
DA_LD
GCTL1
GCTL2
TO PRE/REC (Page4-25)
R217 82K
AVref_out
CFG_IN
DPG_IN
DPG_IN
AVcc
C_FWD
C_REV
C_MODE
C_EMG
D_ON
LD_ON
SLOWH
CAPFR
TRP0
TRP1
TRP2
PFP0
PFP1
CAPH
LINH
FLUSH
CAMSW0
CAMSW1
CAMSW2
XCOUT
XCIN
VSS
CLKSEL
XOUT
XIN
RESET
NUA
NUB
LITHIUM
TAPE_LED
REEL_LED
REC_SAFE
IC201 M37774M5L407GP (MECHA/SERVO CTL)
RTCCS
TRRH
INSH
GCTL2
GCTL1
M_RDY
TRGOUT
DREC
HID
Vcc
LDREV
LDFWD
RA204 1K
RA203 47K
R213 220
R212 1M
X201 16M
C211 15P
C210 15P
C223 22/6.3
Q203 UMC3N (LED DRIVE)
Q204 UMC3N (LED DRIVE)
R210 82
R211 100
Q206 DTC143EE (TRIGGER OUT)
C209 0.1
IC203 TC7W14FU (INVERTER)
R228 56K
R227 56K
RA202 4.7K
Q207 UMC3N (REEF TIMING CTL)
R232 47K
DA202 DAP202U
R207 180K
R233 100K
IC202 BA6417F (MOTOR DRIVER)
Fin
Vcc
VM
OUT1
Rin
VREF
OUT2
GND
C219 1μ
C205 0.1
DA201 DAP202U
L203 10μ
C222 1/16
C206 0.1
CN201
S_SENS
GND
REC_SAFE
TAPE_LED
E_SENS
MIC1
GND
SUP_LED
SUP_SENS
MIC2
GND
TU_LED
TU_SENS
MIC3
NC
TO MECHA
CN202
DEW_SENS
GND
CASSW
GND
CAMSW1
CAMSW0
CAMSW2
GND
CN203
LD_REV
LD_REV
LD_REV
LD_FWD
LD_FWD
LD_FWD
TO LODING MOTOR
IC202 BA6417F
POWER SAVE
CONTROL LOGIC
DRIVER
DRIVER
T.S.D.

4.6 SERVO SCHEMATIC DIAGRAM

4.7 A/V PROCESS (2) SCHEMATIC DIAGRAM



NOTE ⇒ Y/C & AUDIO REC/PB signal
TO AV PROCESS(1) (Page4-37)
D_3V
D_GND
SDA
SCL
VBLK
HD
RST_DCI
RST_ECC
FRP
CLK18
BD0
BD1
BD2
BD3
BD4
BD5
BD6
BD7
BDEN
BQUIET
BDCK
REC/PB Y/C & AUDIO
TO SYSCON (Page4-16)
DATA_CTL
SBE
TO AV PROCESS(1) (Page4-37)
TMS
TCK
TD2
TO SYSCON (Page4-16)
TMDT0
TMDT1
TMDT2
TMDT3
TMDT4
TMDT5
TMDT6
TMDT7
TMRW
TMBNK
TMAW
TMSTB
TMFR
TMDEN
TO SERVO (Page4-19)
DREC
SLOWH
CAPSTP
LIH
FLUSH
FR
SBE
SPEED
TRP0
TRP1
TRP2
PFP0
PFP1
FPS
TSR
SPA
HID
HD
VBLK
L565 47μ
C570 22/6.3
C571 0.1
IC512 TC7S66FU (SWITCH)
IC507 L7B1369 (ECC PROCESS)
VDD3
THOUT
GND
DEDP0
DEDP1
DEDP2
DEDP3
SBE
CLK18
SBSTR
SBSTP
DEDR0
DEDR1
DEDR2
DEDR3
RECSTAT
SCLK2
SELSCK2
ST
FEND
SLOWH
CAPSTP
LIH
TRST
TDI
TCK
TDO
IOTEST
RST
DREC
OPPREND
IPPREND
MASTERH
TWINH
PTST0
PTST1
PTST2
PTST3
ECCOFFH
FLUSH
FR
OE
CAS
WE
RAS
DQ16
DQ15
DQ14
DQ13
DQ12
DQ11
DQ10
DQ9
DQ8
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
A0
A1
A2
A3
A4
A5
A6
A7
A8
L566 47μ
C572 22/6.3
C573 0.1
8
7
6
5
4
3
2
1
A
B
C
D
E
F

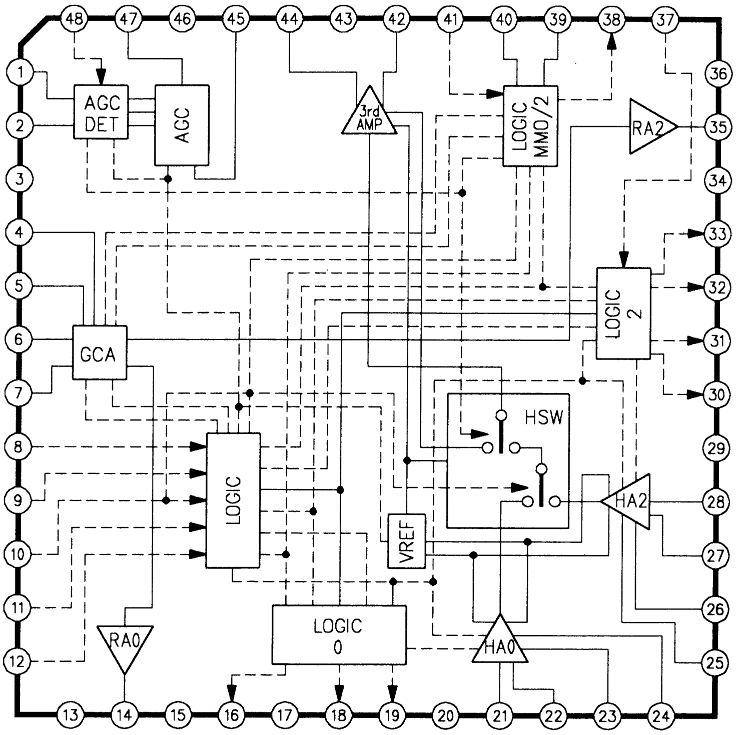


01 MAIN(AV PROCESS 2)
TO PRE/REC (Page4-25)
PBCLK
PBDAT
RECI
PBH
RECCTRLA
RECCTRLB
TO PRE/REC (Page4-25)
HID
HSE
ATFCLK
L567 47μ
C575 22/6.3
C576 0.1
TP510 SBE
REC Y/C & AUDIO
IC509 L7A1378
RST
SCL
SDA
VSS
VDD3
PBCLK
VDD2
PBDAT
SPKREC
SHDUT
DEDR0
DEDR1
DEDR2
DEDR3
SBSTR
SBSTP
CLK18
DEDP0
DEDP1
DEDP2
DEDP3
RECSTRT
FPS
TSR
TRP0
TRP1
TRP2
PFP0
PFP1
SPA
SPEED
ATFCLK
SCN
INHRST
DREC
SLOWH
FR
FRP
HID
THIN
SCKPB
TSTMODE
TRST
TMS
TCK
TDI
TDO
SYNCMNT
HSE
XI
XO
REC
R565 100K
X560 41M
R566 220
C577 10P
C578 1000P
L570 1.5μH
C579 18P
R564 10K
C574 0.01
C573 0.1
IC508 UPD42S4260ALA70 (ECC MEMORY)
VDD3
A0
A1
A2
A3
A4
A5
A6
A7
A8
NC
RAS
WE
OE
CAS
GND
DQ1
DQ2
DQ3
DQ4
DQ5
DQ6
DQ7
DQ8
DQ9
DQ10
DQ11
DQ12
DQ13
DQ14
DQ15
DQ16

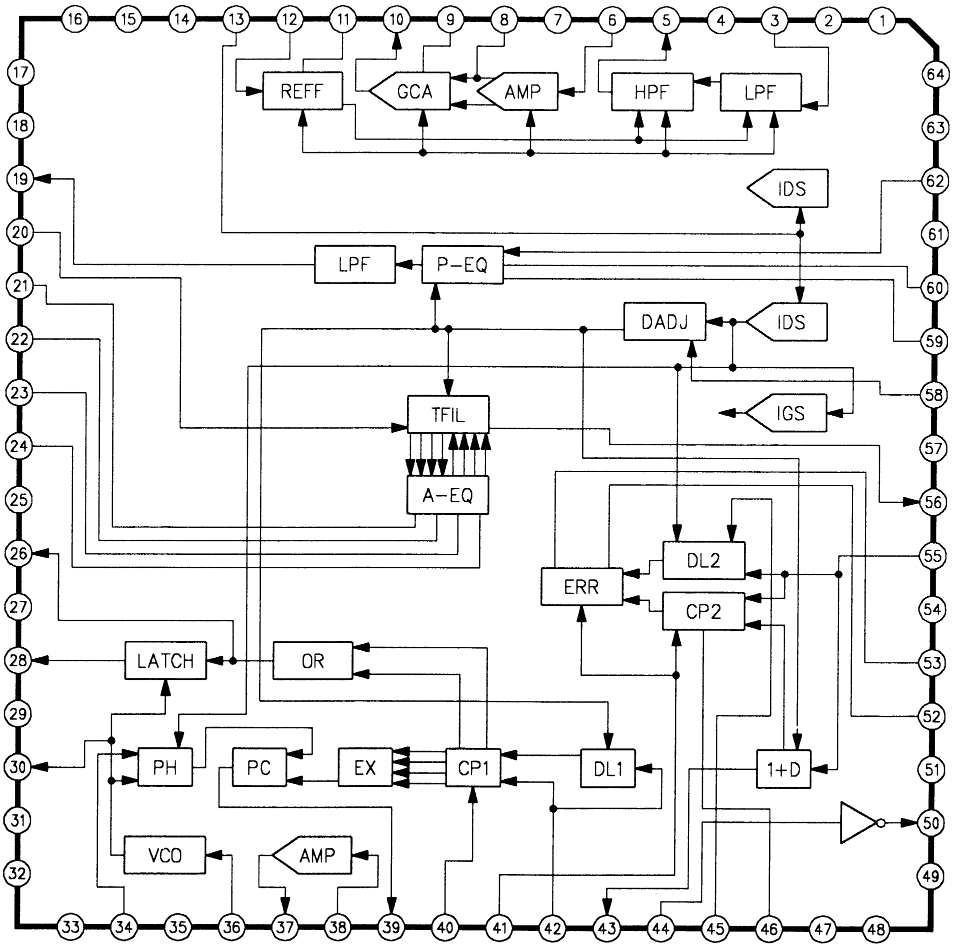
4.7 A/V PROCESS (2) SCHEMATIC DIAGRAM

MEMO

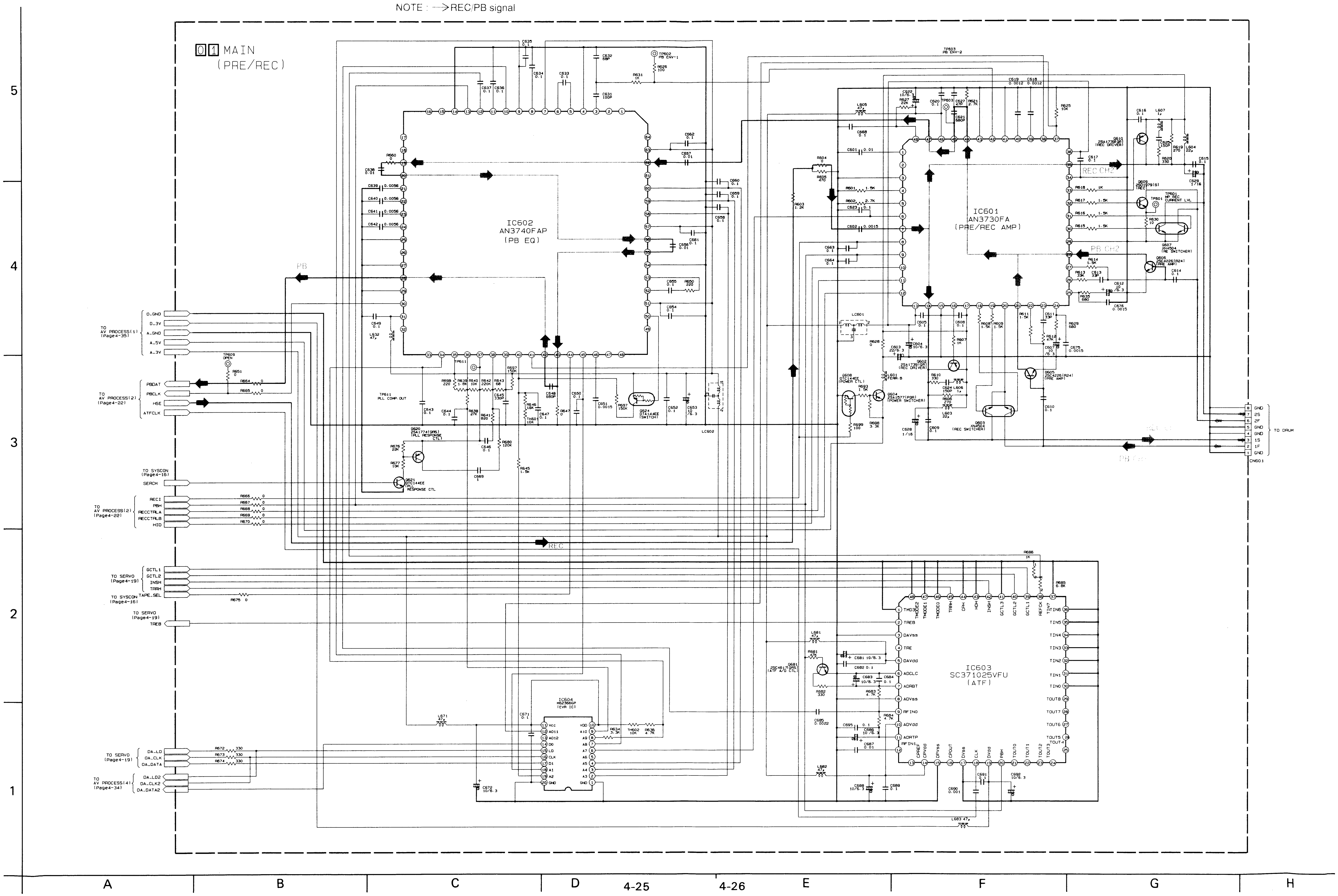
IC601 AN3730FA


AGC DET
AGC
3rd AMP
LOGIC MMO/2
RA2
LOGIC 2
GCA
HSW
HA2
LOGIC
VREF
LOGIC 0
RA0
HA0

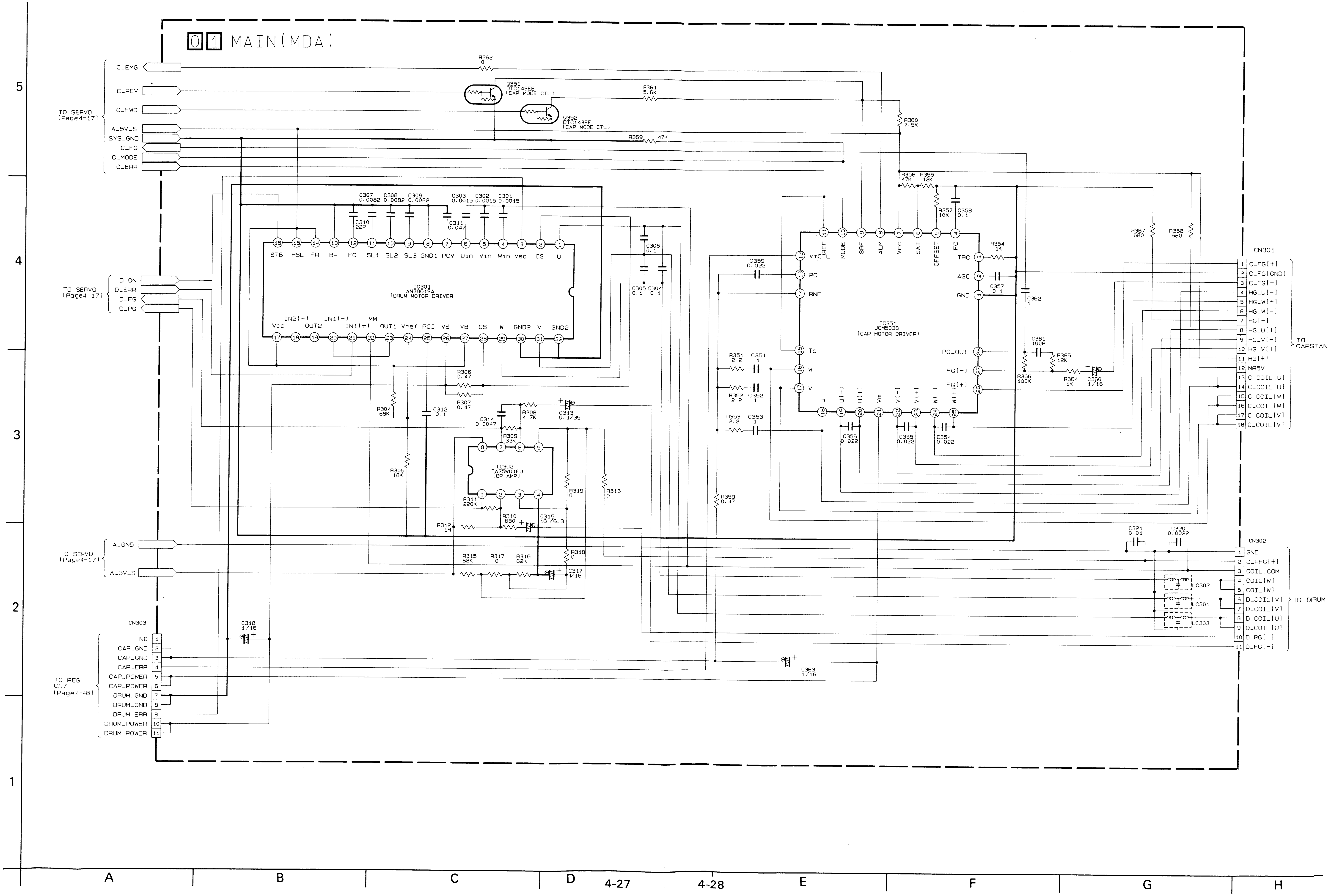
IC602 AN3740FAP


REFF
GCA
AMP
HPF
LPF
IDS
LPF
P-EQ
DADJ
IDS
TFIL
IGS
A-EQ
DL2
ERR
CP2
LATCH
OR
PH
PC
EX
CP1
DL1
1+D
VCO
AMP

4.8 PRE/REC SCHEMATIC DIAGRAM

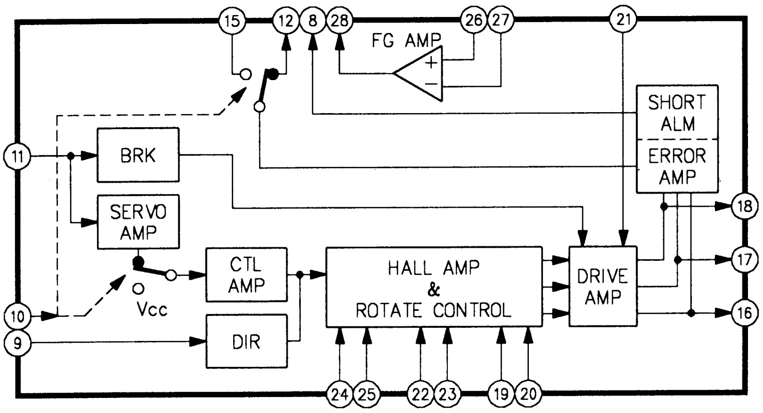

NOTE : →REC/PB signal
01 MAIN (PRE/REC)
IC602 AN3740FAP (PB EQ)
IC601 AN3730FA (PRE/REC AMP)
IC603 SC371025VFU (ATF)
IC604 M62366GP (EVR IC)
TO AV PROCESS(1) (Page4-35)
D_GND
D_3V
A_GND
A_5V
A_3V
TO AV PROCESS(2) (Page4-22)
PBDAT
PBCLK
HSE
ATFCLK
TO SYSCON (Page4-16)
SERCH
TO AV PROCESS(2) (Page4-22)
RECI
PBH
RECCTRLA
RECCTRLB
HID
TO SERVO (Page4-19)
GCTL1
GCTL2
INSH
TRRH
TO SYSCON (Page4-16)
TAPE_SEL
TO SERVO (Page4-19)
TREB
TO SERVO (Page4-19)
DA_LD
DA_CLK
DA_DATA
TO AV PROCESS(4) (Page4-34)
DA_LD2
DA_CLK2
DA_DATA2
PB
REC
REC CH2
PB CH2
TO DRUM
CN601
GND
2S
2F
GND
GND
1S
1F
GND
A
B
C
D
E
F
G
H
1
2
3
4
5

4.9 MDA SCHEMATIC DIAGRAM

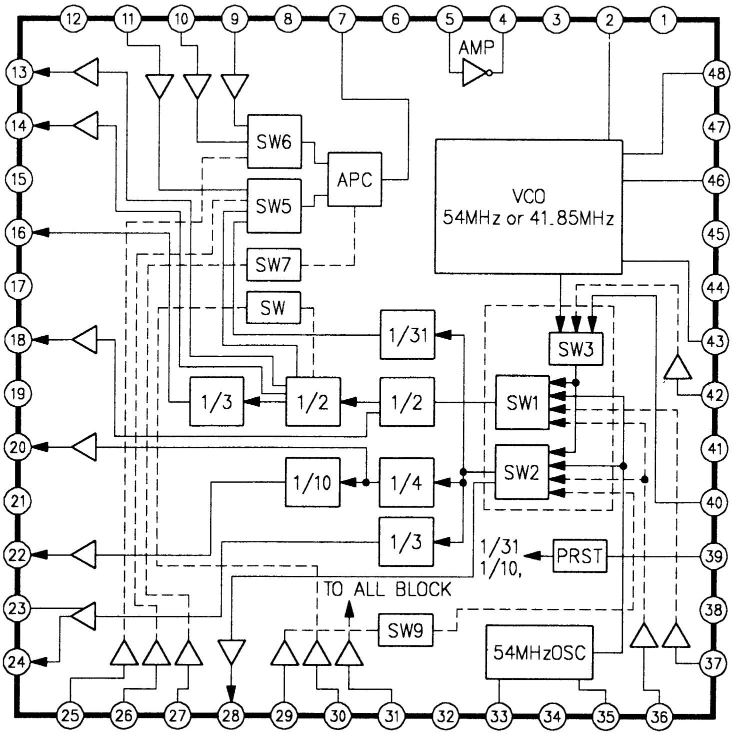


01 MAIN(MDA)
TO SERVO (Page4-17)
C_EMG
C_REV
C_FWD
A_5V_S
SYS_GND
C_FG
C_MODE
C_ERR
TO SERVO (Page4-17)
D_ON
D_ERR
D_FG
D_PG
TO SERVO (Page4-17)
A_GND
A_3V_S
CN303
NC
CAP_GND
CAP_GND
CAP_ERR
CAP_POWER
CAP_POWER
DRUM_GND
DRUM_GND
DRUM_ERR
DRUM_POWER
DRUM_POWER
TO REG CN7 (Page4-48)
R362 0
Q351 DTC143EE (CAP MODE CTL)
Q352 DTC143EE (CAP MODE CTL)
R361 5.6K
R360 7.5K
R369 47K
C307 0.0082
C308 0.0082
C309 0.0082
C303 0.0015
C302 0.0015
C301 0.0015
C310 22P
C311 0.047
C306 0.1
C305 0.1
C304 0.1
STB HSL FR BR FC SL1 SL2 SL3 GND1 PCV Uin Vin Win Vsc CS U
IC301 AN3861SA (DRUM MOTOR DRIVER)
IN2(+) OUT2 IN1(-) MM
Vcc IN1(+) OUT1 Vref PCI VS VB CS W GND2 V GND2
R306 0.47
R307 0.47
R304 68K
C312 0.1
C314 0.0047
R308 4.7K
C313 0.1/35
R309 33K
IC302 TA75W01FU (OP AMP)
R305 18K
R311 220K
R310 680
C315 10/6.3
R312 1M
R319 0
R313 0
R318 0
R315 68K
R317 0
R316 62K
C317 1/16
C318 1/16
R356 47K
R355 12K
R357 10K
C358 0.1
REF MODE SRF ALM Vcc SAT OFFSET FC
VmCTL PC RNF Tc W V
TRC AGC GND
R354 1K
C357 0.1
C362 1
C359 0.022
IC351 JCM5038 (CAP MOTOR DRIVER)
PG_OUT FG(-) FG(+)
C361 100P
R365 12K
R366 100K
R364 1K
C360 1/16
R351 2.2
C351 1
R352 2.2
C352 1
R353 2.2
C353 1
U U(-) U(+) Vm V(-) V(+) W(-) W(+)
C356 0.022
C355 0.022
C354 0.022
R359 0.47
C363 1/16
R367 680
R368 680
CN301
C_FG(+)
C_FG(GND)
C_FG(-)
HG_U(-)
HG_W(+)
HG_W(-)
HG(-)
HG_U(+)
HG_V(-)
HG_V(+)
HG(+)
MR5V
C_COIL(U)
C_COIL(U)
C_COIL(W)
C_COIL(W)
C_COIL(V)
C_COIL(V)
TO CAPSTAN
C321 0.01
C320 0.0022
CN302
GND
D_PFG(+)
COIL_COM
COIL(W)
COIL(W)
D_COIL(V)
D_COIL(V)
D_COIL(U)
D_COIL(U)
D_PG(-)
D_FG(-)
LC302
LC301
LC303
TO DRUM
5
4
3
2
1
A
B
C
D
E
F
G
H

IC351 JCM5038


15
12
8
28
26
27
21
FG AMP
+
−
SHORT
ALM
ERROR
AMP
11
BRK
SERVO
AMP
Vcc
CTL
AMP
HALL AMP
&
ROTATE CONTROL
DRIVE
AMP
18
17
16
10
9
DIR
24
25
22
23
19
20

IC401 UPC2384GA


AMP
SW6
APC
SW5
SW7
SW
VCO
54MHz or 41.85MHz
1/31
SW3
1/3
1/2
1/2
SW1
1/10
1/4
SW2
1/3
1/31
1/10,
PRST
TO ALL BLOCK
SW9
54MHzOSC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
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29
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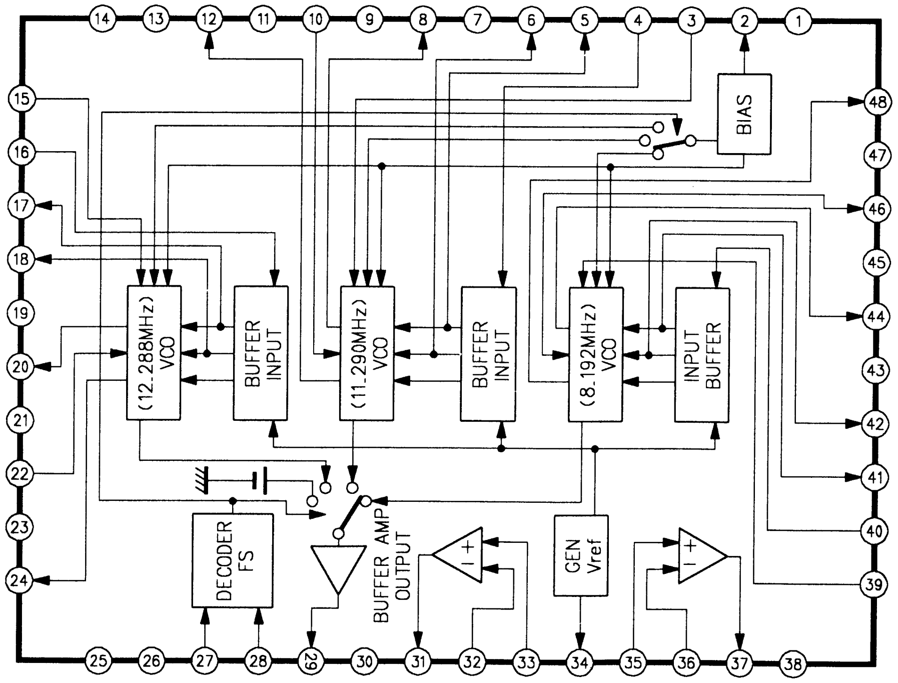
44
45
46
47
48

IC402 M52660FP


BIAS
(12.288MHz)
VCO
BUFFER
INPUT
(11.290MHz)
VCO
BUFFER
INPUT
(8.192MHz)
VCO
INPUT
BUFFER
DECODER
FS
BUFFER AMP
OUTPUT
GEN
Vref
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
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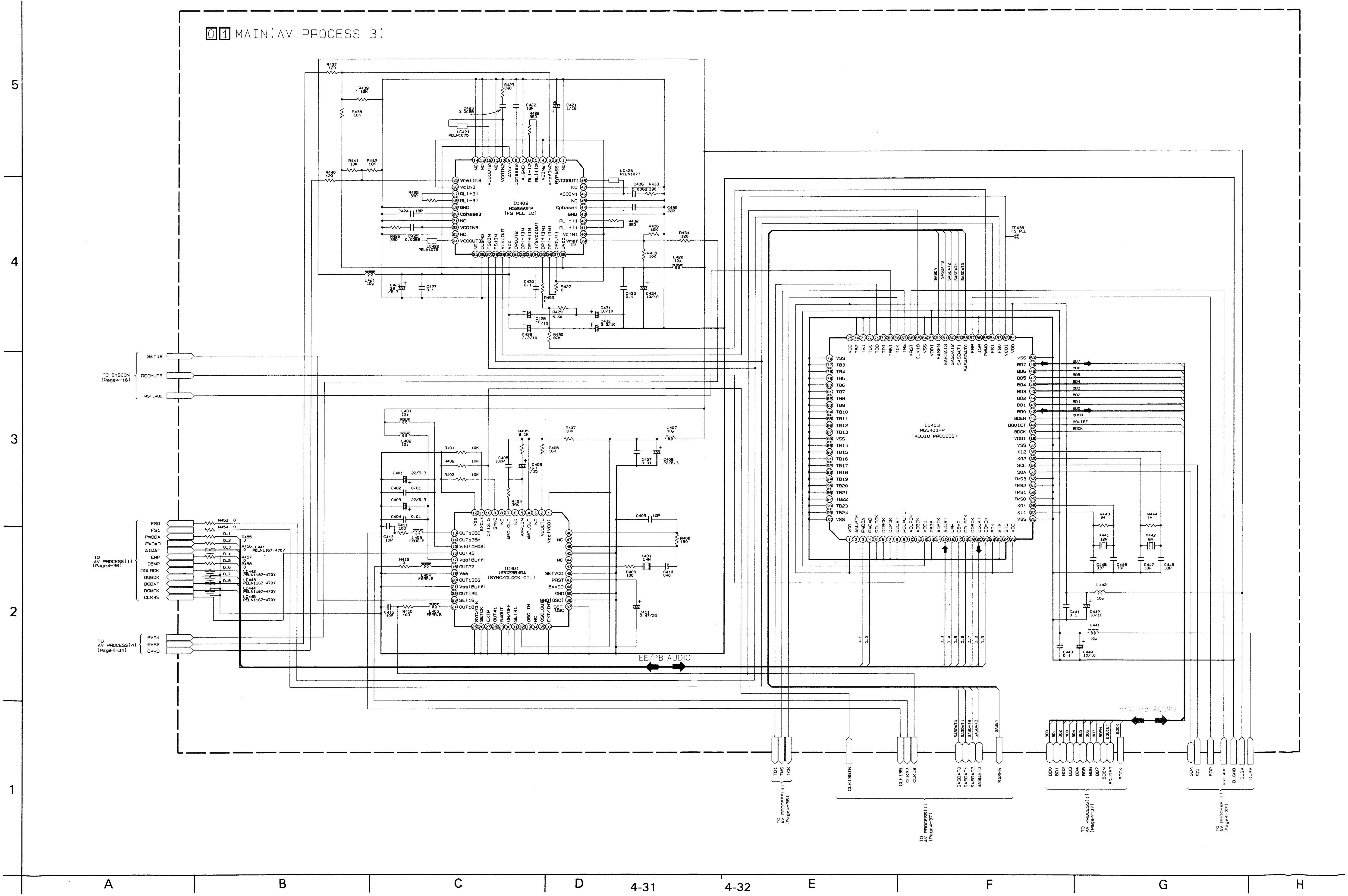
47
48

4.10 A/V PROCESS (3) SCHEMATIC DIAGRAM

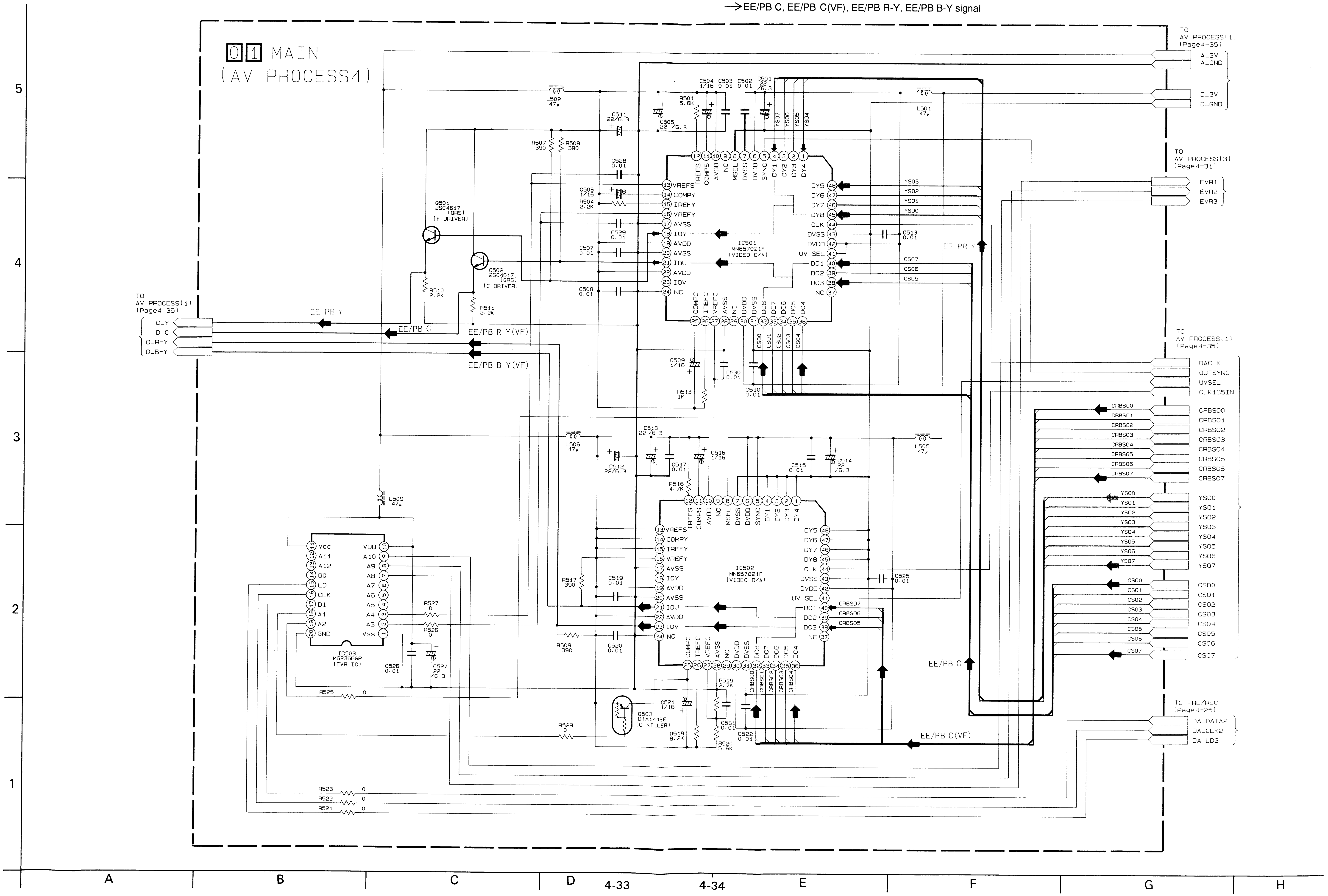
NOTE : —> EE/PB AUDIO, REC/PB AUDIO signal



01 MAIN(AV PROCESS 3)
IC402
M52660FP
(FS PLL IC)
IC401
UPC2384GA
(SYNC/CLOCK CTL)
IC403
M65401FP
(AUDIO PROCESS)
TP436
FS PLL
TO SYSCON (Page4-16)
SET18
RECMUTE
RST_AUD
TO AV PROCESS(1) (Page4-36)
FS0
FS1
PWDDA
PWDAD
AIDAT
EMP
DEMP
DOLRCK
DOBCK
DODAT
DOMCK
CLK45
TO AV PROCESS(4) (Page4-34)
EVR1
EVR2
EVR3
EE/PB AUDIO
REC/PB AUDIO
TD1
TMS
TCK
TO AV PROCESS(1) (Page4-36)
CLK135IN
CLK135
CLK27
CLK18
SASDAT0
SASDAT1
SASDAT2
SASDAT3
SASEN
TO AV PROCESS(1) (Page4-37)
BD0
BD1
BD2
BD3
BD4
BD5
BD6
BD7
BDEN
BQUIET
BDCK
TO AV PROCESS(1) (Page4-37)
SDA
SCL
FRP
RST_AUD
D_GND
D_3V
D_2V
TO AV PROCESS(1) (Page4-37)
A
B
C
D
E
F
G
H
1
2
3
4
5

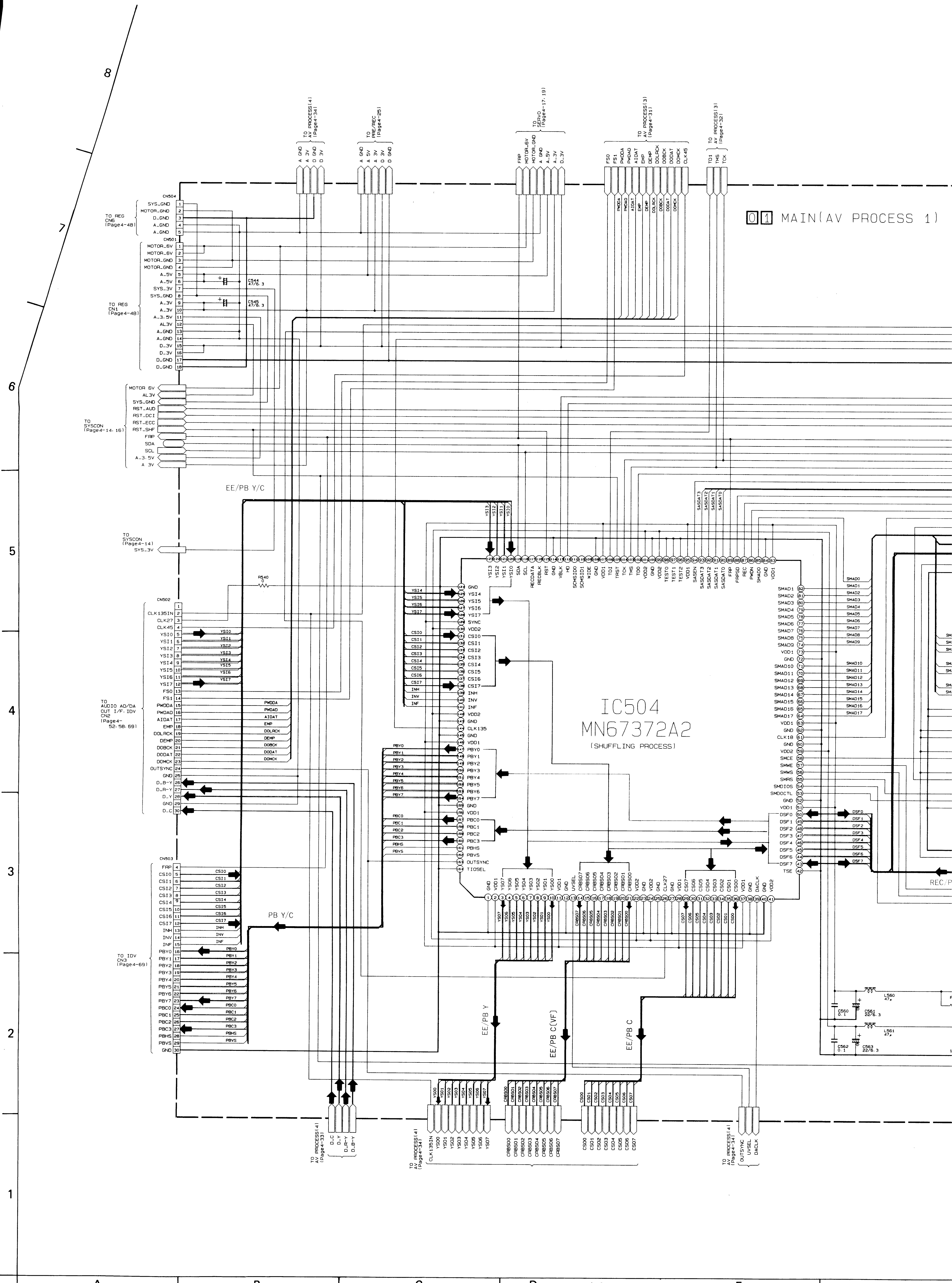
4.11 A/V PROCESS (4) SCHEMATIC DIAGRAM

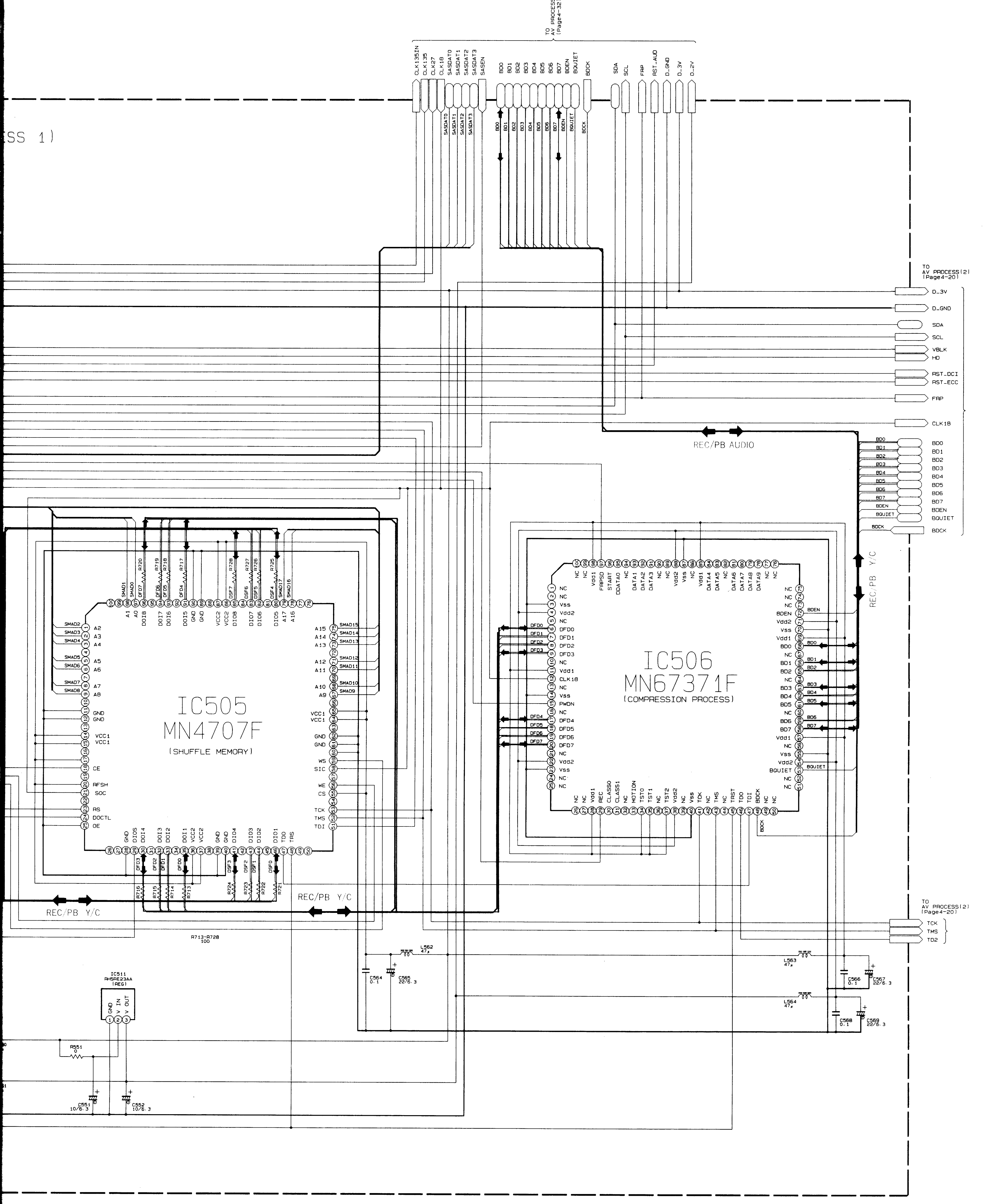
NOTES :→EE/PB Y signal
→EE/PB C, EE/PB C(VF), EE/PB R-Y, EE/PB B-Y signal



01 MAIN
(AV PROCESS4)
TO AV PROCESS(1) (Page4-35)
A_3V
A_GND
D_3V
D_GND
TO AV PROCESS(3) (Page4-31)
EVR1
EVR2
EVR3
TO AV PROCESS(1) (Page4-35)
DACLK
OUTSYNC
UVSEL
CLK135IN
CRBS00
CRBS01
CRBS02
CRBS03
CRBS04
CRBS05
CRBS06
CRBS07
YS00
YS01
YS02
YS03
YS04
YS05
YS06
YS07
CS00
CS01
CS02
CS03
CS04
CS05
CS06
CS07
TO PRE/REC (Page4-25)
DA_DATA2
DA_CLK2
DA_LD2
TO AV PROCESS(1) (Page4-35)
D_Y
D_C
D_R-Y
D_B-Y
EE/PB Y
EE/PB C
EE/PB R-Y(VF)
EE/PB B-Y(VF)
EE/PB C(VF)
L502 47μ
L501 47μ
L506 47μ
L505 47μ
L509 47μ
C504 1/16
C503 0.01
C502 0.01
C501 22/6.3
R501 5.6K
C505 22/6.3
C511 22/6.3
R507 390
R508 390
C528 0.01
C506 1/16
R504 2.2K
C529 0.01
C507 0.01
C508 0.01
Q501 2SC4617 (QRS) (Y-DRIVER)
Q502 2SC4617 (QRS) (C-DRIVER)
R510 2.2K
R511 2.2K
IC501 MN657021F (VIDEO D/A)
C513 0.01
C509 1/16
C530 0.01
R513 1K
C510 0.01
C518 22/6.3
C512 22/6.3
C517 0.01
C516 1/16
C515 0.01
C514 22/6.3
R516 4.7K
IC502 MN657021F (VIDEO D/A)
C525 0.01
R517 390
C519 0.01
R509 390
C520 0.01
R519 2.7K
C521 1/16
Q503 DTA144EE (C.KILLER)
R518 8.2K
C531 0.01
R520 5.6K
C522 0.01
R529 0
IC503 M62366GP (EVR IC)
R527 0
R526 0
C526 0.01
C527 22/6.3
R525 0
R523 0
R522 0
R521 0
VREFS COMPY IREFY VREFY AVSS IOY AVDD AVSS IOU AVDD IOV NC
IREFS COMPS AVDD NC MSEL DVSS DVDD SYNC DY1 DY2 DY3 DY4
DY5 DY6 DY7 DY8 CLK DVSS DVDD UV SEL DC1 DC2 DC3 NC
COMPC IREFC VREFC AVSS NC DVDD DVSS DC8 DC7 DC6 DC5 DC4
Vcc A11 A12 D0 LD CLK D1 A1 A2 GND
VDD A10 A9 A8 A7 A6 A5 A4 A3 VSS
1 2 3 4 5
A B C D E F G H

4.12 A/V PROCESS (1) SCHEMATIC DIAGRAM


01 MAIN(AV PROCESS 1)
IC504
MN67372A2
(SHUFFLING PROCESS)
TO AV PROCESS(4) (Page4-34)
A GND
A 3V
D GND
D 3V
TO PRE/REC (Page4-25)
A 5V
TO SERVO (Page4-17, 19)
FRP
MOTOR_6V
MOTOR_GND
A_5V
A_3V
D_3V
TO AV PROCESS(3) (Page4-31)
FS0
FS1
PWDDA
PWDAD
AIDAT
EMP
DEMP
DOLRCK
DOBCK
DODAT
DOMCK
CLK45
TO AV PROCESS(3) (Page4-32)
TDI
TMS
TCK
CN504
TO REG CN6 (Page4-48)
SYS_GND
MOTOR_GND
D_GND
A_GND
CN501
TO REG CN1 (Page4-48)
MOTOR_6V
A_5V
SYS_3V
SYS_GND
A_3V
A_3.5V
AL3V
D_3V
C544 47/6.3
C545 47/6.3
TO SYSCON (Page4-14, 16)
MOTOR 6V
RST_AUD
RST_DCI
RST_ECC
RST_SHF
SDA
SCL
TO SYSCON (Page4-14)
SYS_3V
EE/PB Y/C
R540 0
CN502
TO AUDIO AD/DA OUT I/F, IDV CN2 (Page4-52, 58, 69)
CLK135IN
CLK27
YSI0 - YSI7
OUTSYNC
D_B-Y
D_R-Y
D_Y
D_C
CN503
TO IDV CN3 (Page4-69)
CSI0 - CSI7
INH
INV
INF
PBY0 - PBY7
PBC0 - PBC3
PBHS
PBVS
PB Y/C
EE/PB Y
EE/PB C(VF)
EE/PB C
SMAD0 - SMAD17
SASDAT0 - SASDAT3
DSF0 - DSF7
REC/P
L560 47μ
C560 0.1
C561 22/6.3
L561 47μ
C562 0.1
C563 22/6.3
TO AV PROCESS(4) (Page4-33)
TO AV PROCESS(4) (Page4-34)
YSO0 - YSO7
CRBSO0 - CRBSO7
CSO0 - CSO7
UVSEL
DACLK
1
2
3
4
5
6
7
8
A
B
C
D
E
F


TO AV PROCESS(3) (Page4-32)
CLK135IN
CLK135
CLK27
CLK18
SASDAT0
SASDAT1
SASDAT2
SASDAT3
SASEN
BD0
BD1
BD2
BD3
BD4
BD5
BD6
BD7
BDEN
BQUIET
BCK
SDA
SCL
FRP
RST_AUD
D_GND
D_3V
D_2V
SS 1)
TO AV PROCESS(2) (Page4-20)
D_3V
D_GND
SDA
SCL
VBLK
HD
RST_DCI
RST_ECC
FRP
CLK18
BD0
BD1
BD2
BD3
BD4
BD5
BD6
BD7
BDEN
BQUIET
BCK
REC/PB AUDIO
REC/PB Y/C
IC505
MN4707F
(SHUFFLE MEMORY)
IC506
MN67371F
(COMPRESSION PROCESS)
REC/PB Y/C
REC/PB Y/C
R713-R728
100
IC511
RH5RE23AA
(REG)
GND
V IN
V OUT
R551
0
C551
10/6.3
C552
10/6.3
L562
47μ
C564
0.1
C565
22/6.3
L563
47μ
C566
0.1
C567
22/6.3
L564
47μ
C568
0.1
C569
22/6.3
TO AV PROCESS(2) (Page4-20)
TCK
TMS
TO2

NOTES : —>REC/PB Y/C, EE/PB Y ,PB Y/C signal

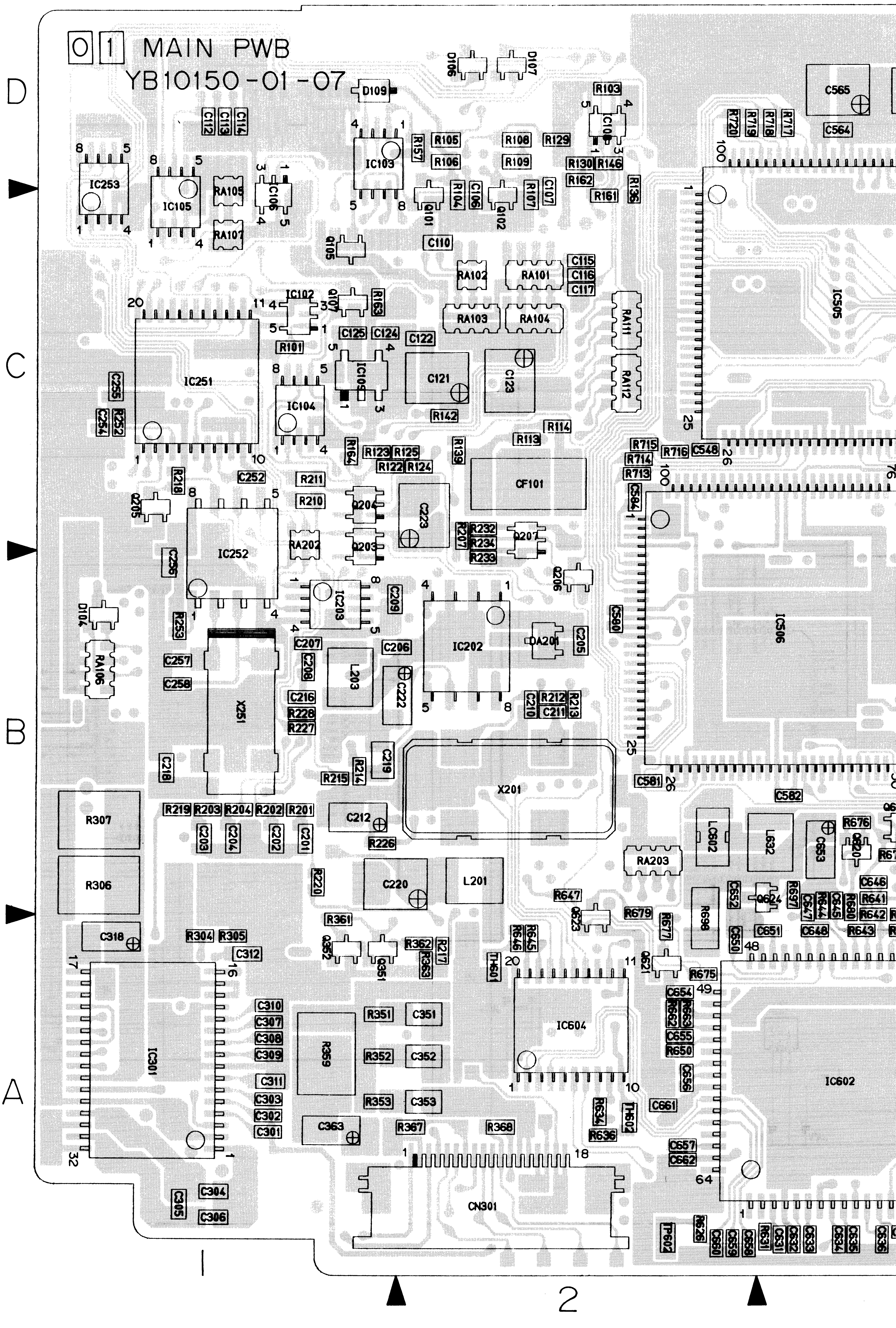
—>EE/PB C,EE/PB C[VF] signal

—>REC/PB AUDIO signal

4.12 A/V PROCESS (1) SCHEMATIC DIAGRAM

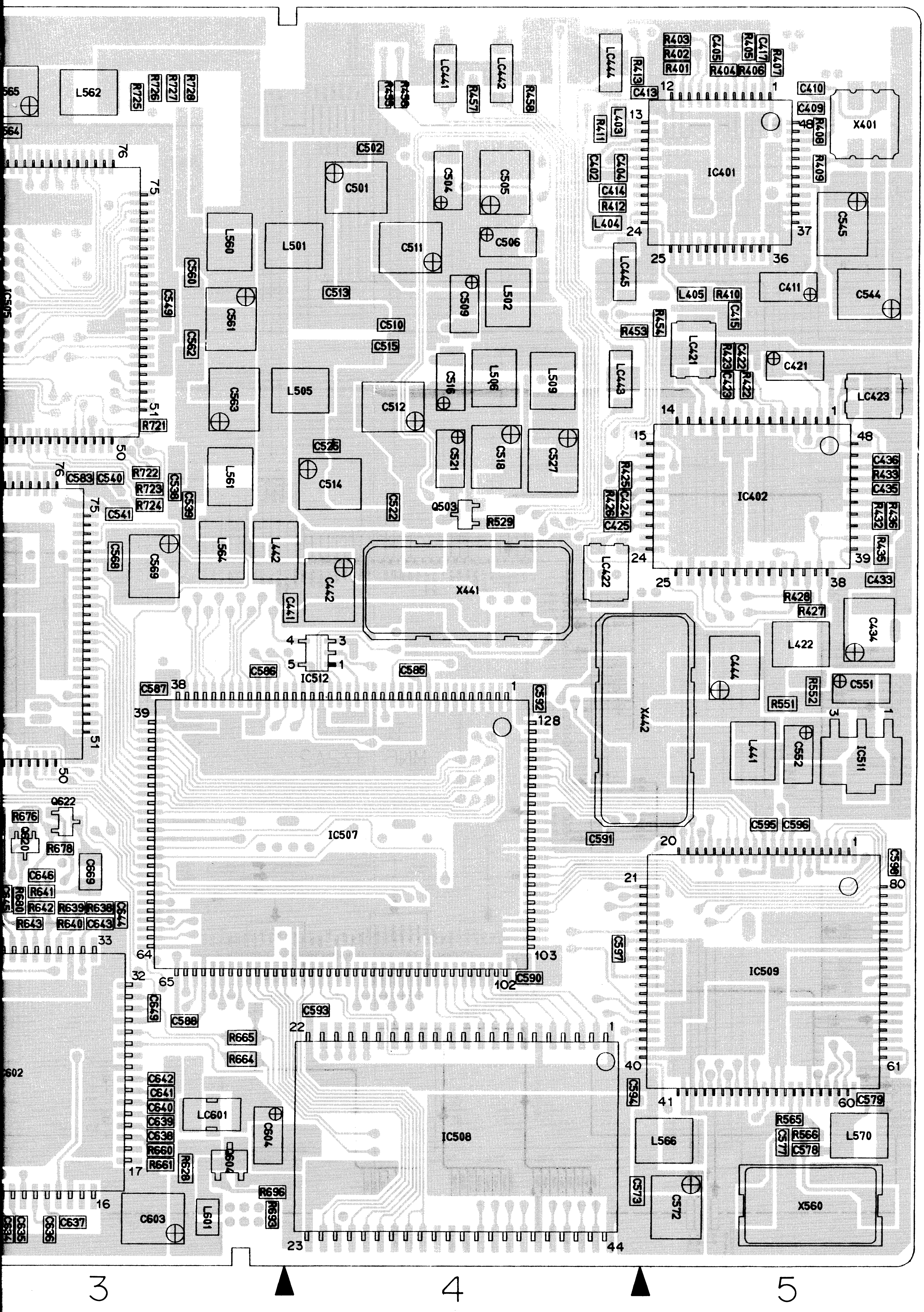
4.13 MAIN CIRCUIT BOARD

FOIL SI



01 MAIN PWB
YB10150-01-07
D
C
B
A
1
2
D106
D107
D109
R103
C108
C565
C564
R720
R719
R718
R717
C112
C113
C114
IC253
IC105
RA105
RA107
C106
IC103
R157
R105
R106
R108
R109
R129
R130
R146
R162
R161
R136
Q101
R104
C106
Q102
R107
C107
Q105
C110
RA102
RA101
C115
C116
C117
IC102
Q107
R163
RA103
RA104
RA111
RA112
IC505
IC251
C125
C124
C122
R101
IC105
C121
C123
IC104
C255
C254
R252
R142
R114
R113
R164
R123
R125
R122
R124
R139
R715
R714
R713
R716
C548
C584
R218
C252
R211
R210
Q205
Q204
Q203
C223
CF101
R207
R232
R234
R233
Q207
IC252
RA202
C256
IC203
Q206
IC202
C209
D104
R253
C580
DA201
C205
IC506
RA106
C257
C258
C207
C208
C206
L203
C222
X251
C216
R228
R227
C210
R212
R213
C211
C218
C219
R214
R215
X201
C581
C582
R307
R219
R203
R204
R202
R201
C203
C204
C202
C201
C212
R226
LC602
L632
C653
R676
Q620
RA203
R306
R220
C220
L201
R647
Q624
R697
C647
R644
C645
R680
C646
R641
R642
R643
C652
R698
C318
R304
R305
C312
R361
Q352
Q351
R362
R363
R217
Q623
R679
R677
C651
C648
C650
R646
R645
TH601
Q621
R675
IC301
C310
C307
C308
C309
C311
C303
C302
C301
R359
R351
C351
R352
C352
R353
C353
C363
R367
R368
IC604
C654
R662
R663
C655
R650
C656
C661
R634
TH602
R636
IC602
C657
C662
CN301
C304
C305
C306
TP602
R626
C660
C659
C658
R631
C631
C632
C633
C634
C635
C636

FOIL SIDE (B)


L562
R725
R726
R727
R728
R436
R435
LC441
LC442
R457
R458
LC444
R413
R403
R402
R401
C405
R405
C417
R407
R404
R406
C413
C410
C409
X401
R408
R409
R411
L403
C402
C404
C414
R412
L404
IC401
C545
C502
C501
C504
C505
C511
C506
L560
L501
LC445
C544
C411
L405
R410
C415
R453
R454
LC421
R423
C422
C423
R422
C421
LC423
C560
C549
C561
C562
C513
C509
L502
C510
C515
C516
L506
L509
LC443
C563
L505
C512
C521
C518
C527
IC402
C436
R433
C435
R721
C525
C514
R425
C424
R426
C425
R432
R436
R435
C433
R722
R723
R724
C583
C540
C538
C539
C541
L561
C522
Q503
R529
C568
C569
L564
L442
C442
X441
LC422
R428
R427
C434
L422
C441
IC512
C444
C586
C585
C551
R552
R551
C587
C592
X442
L441
C552
IC511
IC507
Q622
R676
Q620
R678
C669
C646
R641
R680
R642
R639
R638
C644
R643
R640
C643
C595
C596
C591
C598
IC509
C597
C590
C649
C588
C593
R665
R664
C594
C579
C642
C641
C640
C639
C638
R660
R661
LC601
C604
Q604
R628
IC508
R565
C577
R566
C578
L570
L566
C573
C572
R696
R693
L601
C603
C637
C636
C635
C602
X560
IC505
3
4
5

4.13 MAIN CIRCUIT BOARD

COMPONENT PARTS LOCATION GUIDE (YB10150-01-07)

REF.No.	LOCATION		
CAPACITOR			
C101	A	C	1C
C102	A	C	1C
C103	A	C	1C
C104	A	C	1C
C105	A	C	1C
C106	B	C	2C
C107	B	C	2C
C108	A	C	1C
C110	B	C	2C
C111	A	C	2D
C112	B	C	1D
C113	B	C	1D
C114	B	C	1D
C115	B	C	2C
C116	B	C	2C
C117	B	C	2C
C118	A	C	2C
C121	B	C	2C
C122	B	C	2C
C123	B	C	2C
C124	B	C	1C
C125	B	C	1C
C201	B	C	1B
C202	B	C	1B
C203	B	C	1B
C204	B	C	1B
C205	B	C	2B
C206	B	C	1B
C207	B	C	1B
C208	B	C	1B
C209	B	C	1B
C210	B	C	2B
C211	B	C	2B
C212	B	C	1B
C215	A	C	1B
C216	B	C	1B
C218	B	C	1B
C219	B	C	1B
C220	B	C	1B
C221	A	C	1C
C222	B	C	1B
C223	B	C	2C
C251	A	C	1C
C252	B	C	1C
C253	A	C	1C
C254	B	C	1C
C255	B	C	1C
C256	B	C	1B
C257	B	C	1B
C258	B	C	1B
C301	B	C	1A
C302	B	C	1A
C303	B	C	1A
C304	B	C	1A
C305	B	C	1A
C306	B	C	1A
C307	B	C	1A
C308	B	C	1A
C309	B	C	1A
C310	B	C	1A
C311	B	C	1A
C312	B	C	1A
C313	A	C	2A
C314	A	C	2A
C315	A	C	2A
C316	A	C	2A
C317	A	C	2A
C318	B	C	1A
C320	A	C	2A
C321	A	C	2A
C351	B	C	2A
C352	B	C	2A
C353	B	C	2A
C354	A	C	1A
C355	A	C	1A
C356	A	C	2A
C357	A	C	1A
C358	A	C	1A
C359	A	C	2A
C360	A	C	1A
C361	A	C	1A
C362	A	C	1B
C363	B	C	1A
C401	A	C	5D
C402	B	C	4D
C403	A	C	5C
C404	B	C	4D
C405	B	C	5D
C406	A	C	5D
C407	A	C	5D
C408	A	C	5D
C409	B	C	5D
C410	B	C	5D
C411	B	C	5C
C413	B	C	4D
C414	B	C	4C
C415	B	C	5C
C417	B	C	5D
C421	B	C	5C
C422	B	C	5C
C423	B	C	5C
C424	B	C	4C
C425	B	C	4C
C426	A	C	5C
C427	A	C	5C
C428	A	C	5C
C429	A	C	5C
C430	A	C	5B
C431	A	C	5C
C432	A	C	5C
C433	B	C	5B
C434	B	C	5B
C435	B	C	5C
C436	B	C	5C
C441	B	C	3B
C442	B	C	4B
C443	A	C	4B
C444	B	C	5B
C445	A	C	4B
C446	A	C	4B
C447	A	C	4B
C448	A	C	5B
C450	A	C	4B
C452	A	C	4B
C453	A	C	4B
C501	B	C	4D
C502	B	C	4D
C503	A	C	4D
C504	B	C	4D
C505	B	C	4D
C506	B	C	4C
C507	A	C	4C
C508	A	C	4C
C509	B	C	4C
C510	B	C	4C
C511	B	C	4C
C512	B	C	4C
C513	B	C	4C
C514	B	C	4C
C515	B	C	4C
C516	B	C	4C
C517	A	C	4C
C518	B	C	4C
C519	A	C	4C
C520	A	C	4C
C521	B	C	4C
C522	B	C	4C
C525	B	C	4C
C526	A	C	4C
C527	B	C	4C
C528	A	C	4D
C529	A	C	4D
C530	A	C	4C
C531	A	C	4C
C536	A	C	3D
C537	A	C	3C
C538	B	C	3C
C539	B	C	3C
C540	B	C	3C
C541	B	C	3C
C542	A	C	3B
C543	A	C	2B
C544	B	C	5C
C545	B	C	5C
C548	B	C	2C
C549	B	C	3C
C551	B	C	5B
C552	B	C	5B
C560	B	C	3C
C561	B	C	3C
C562	B	C	3C
C563	B	C	3C
C564	B	C	3D
C565	B	C	3D
C566	A	C	3B
C567	A	C	3B
C568	B	C	3B
C569	B	C	3B
C570	A	C	3B
C571	A	C	3B
C572	B	C	5A
C573	B	C	4A
C574	A	C	5B
C575	A	C	5A
C576	A	C	5A
C577	B	C	5A
C578	B	C	5A
C579	B	C	5A
C580	B	C	2B
C581	B	C	2B
C582	B	C	3B
C583	B	C	3C
C584	B	C	2C
C585	B	C	4B
C586	B	C	3B
C587	B	C	3B
C588	B	C	3A
C590	B	C	4A
C591	B	C	4B
C592	B	C	4B
C593	B	C	4A
C594	B	C	4A
C595	B	C	5B
C596	B	C	5B
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C602	A	C	3A
C603	B	C	3A
C604	B	C	3A
C605	A	C	3A
C606	A	C	4A
C607	A	C	3A
C608	A	C	3A
C609	A	C	3A
C610	A	C	3A
C611	A	C	3A
C612	A	C	3A
C613	A	C	3A
C614	A	C	3A
C615	A	C	2A
C616	A	C	3B
C617	A	C	3B
C618	A	C	3B
C619	A	C	3B
C620	A	C	3B
C621	A	C	3B
C622	A	C	3B
C623	A	C	3A
C624	A	C	3A
C625	A	C	2B
C626	A	C	4A
C627	A	C	3B
C628	A	C	3A
C629	A	C	2A
C631	B	C	3A
C632	B	C	3A
C633	B	C	3A
C634	B	C	3A
C635	B	C	3A
C636	B	C	3A
C637	B	C	3A
C638	B	C	3A
C639	B	C	3A
C640	B	C	3A
C641	B	C	3A
C642	B	C	3A
C643	B	C	3A
C644	B	C	3A
C645	B	C	3B
C646	B	C	3B
C647	B	C	3B
C648	B	C	3A
C649	B	C	3A
C650	B	C	2A
C651	B	C	3A
C652	B	C	2B
C653	B	C	3B
C654	B	C	2A
C655	B	C	2A
C656	B	C	2A
C657	B	C	2A
C658	B	C	2A
C659	B	C	2A
C660	B	C	2A
C661	B	C	2A
C662	B	C	2A
C663	A	C	4A
C664	A	C	4A
C665	A	C	4A
C666	A	C	4A
C667	A	C	4A
C668	A	C	3B
C669	B	C	3B
C671	A	C	2A
C672	A	C	2A
C675	A	C	3A
C676	A	C	3A
C681	A	C	3B
C682	A	C	3B
C683	A	C	2B
C684	A	C	3B
C685	A	C	3B
C686	A	C	3B
C687	A	C	3B
C688	A	C	2B
C689	A	C	3B
C690	A	C	3B
C691	A	C	3B
C692	A	C	3B
C694	A	C	3B
C695	A	C	2B
CONNECTOR			
CN101	A	C	1D
CN103	A	C	1B
CN201	A	C	1D
CN202	A	C	5B
CN203	A	C	5B
CN301	B	C	2A
CN302	A	C	2A
CN303	A	C	1A
CN501	A	C	5D
CN502	A	C	4D
CN503	A	C	3D
CN504	A	C	5C
CN601	A	C	3A
DIODE			
D101	A	C	1C
D102	A	C	1C
D104	B	C	1B
D105	A	C	1C
D106	B	C	2D
D107	B	C	2D
D108	A	C	1C
D109	B	C	1D
DA201	B	C	2B
IC			
IC101	A	C	2C
IC102	B	C	1C
IC103	B	C	1D
IC104	B	C	1C
IC105	B	C	1C
IC106	B	C	1C
IC107	A	C	1C
IC108	B	C	2D
IC109	B	C	1C
IC201	A	C	2B
IC202	B	C	2B
IC203	B	C	1B
IC251	B	C	1C
IC252	B	C	1B
IC253	B	C	1C
IC301	B	C	1A
IC302	A	C	2A
IC351	A	C	1A
IC401	B	C	5D
IC402	B	C	5C
IC403	A	C	4B
IC501	A	C	4C
IC502	A	C	4C
IC503	A	C	4C
IC504	A	C	3C
IC505	B	C	3C
IC506	B	C	3B
IC507	B	C	4B
IC508	B	C	4A
IC509	B	C	5A
IC511	B	C	5B
IC512	B	C	4B
IC601	A	C	3A
IC602	B	C	3A
IC603	A	C	3B
IC604	B	C	2A
COIL			
L101	A	C	2C
L201	B	C	2B
L202	A	C	1C
L203	B	C	1B
L251	A	C	1C
L401	A	C	4C
L402	A	C	5C
L403	B	C	4D
L404	B	C	4C
L405	B	C	5C
L407	A	C	5C
L421	A	C	5C
L422	B	C	5B
L441	B	C	5B
L442	B	C	3B
L501	B	C	3C
L502	B	C	4C
L505	B	C	4C
L506	B	C	4C
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L560	B	C	3C
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L562	B	C	3D
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L566	B	C	5A
L567	A	C	5A
L570	B	C	5A
L601	B	C	3A
L603	A	C	3A
L604	A	C	3A
L605	A	C	3B
L606	A	C	4A
L607	A	C	2B
L632	B	C	3B
L671	A	C	2A
L681	A	C	2B
L682	A	C	2B
L683	A	C	3B
TRANSISTOR			
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Q102	B	C	2C
Q105	B	C	1C
Q106	A	C	1B
Q107	B	C	1C
Q108	A	C	1C
Q203	B	C	1C
Q204	B	C	1C
Q205	B	C	1C
Q206	B	C	2B
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Q610	A	C	3A
Q620	B	C	3B
Q621	B	C	2A
Q622	B	C	3B

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Q681	A	C	2B
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R105	B	C	2D
R106	B	C	2D
R107	B	C	2C
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RA110	A	C	1C
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RA112	B	C	2C
RA202	B	C	1C
RA203	B	C	2B
RA204	A	C	2B
RA206	A	C	1C
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TP103	A	C	1C
TP107	A	C	1D
TP201	A	C	1C
TP202	A	C	1C
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TP420	A	C	4C
TP423	A	C	4C
TP427	A	C	4B
TP428	A	C	4C
TP429	A	C	4C
TP431	A	C	4C
TP432	A	C	5B
TP433	A	C	5B
TP436	A	C	5B
TP437	A	C	4A
TP450	A	C	4A
TP463	A	C	5D
TP467	A	C	3D
TP490	A	C	5B
TP501	A	C	4D
TP502	A	C	4D
TP503	A	C	4D
TP504	A	C	4D
TP509	A	C	4C
TP510	A	C	1C
TP511	A	C	5A
TP512	A	C	5B
TP513	A	C	5A
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TP523	A	C	3B
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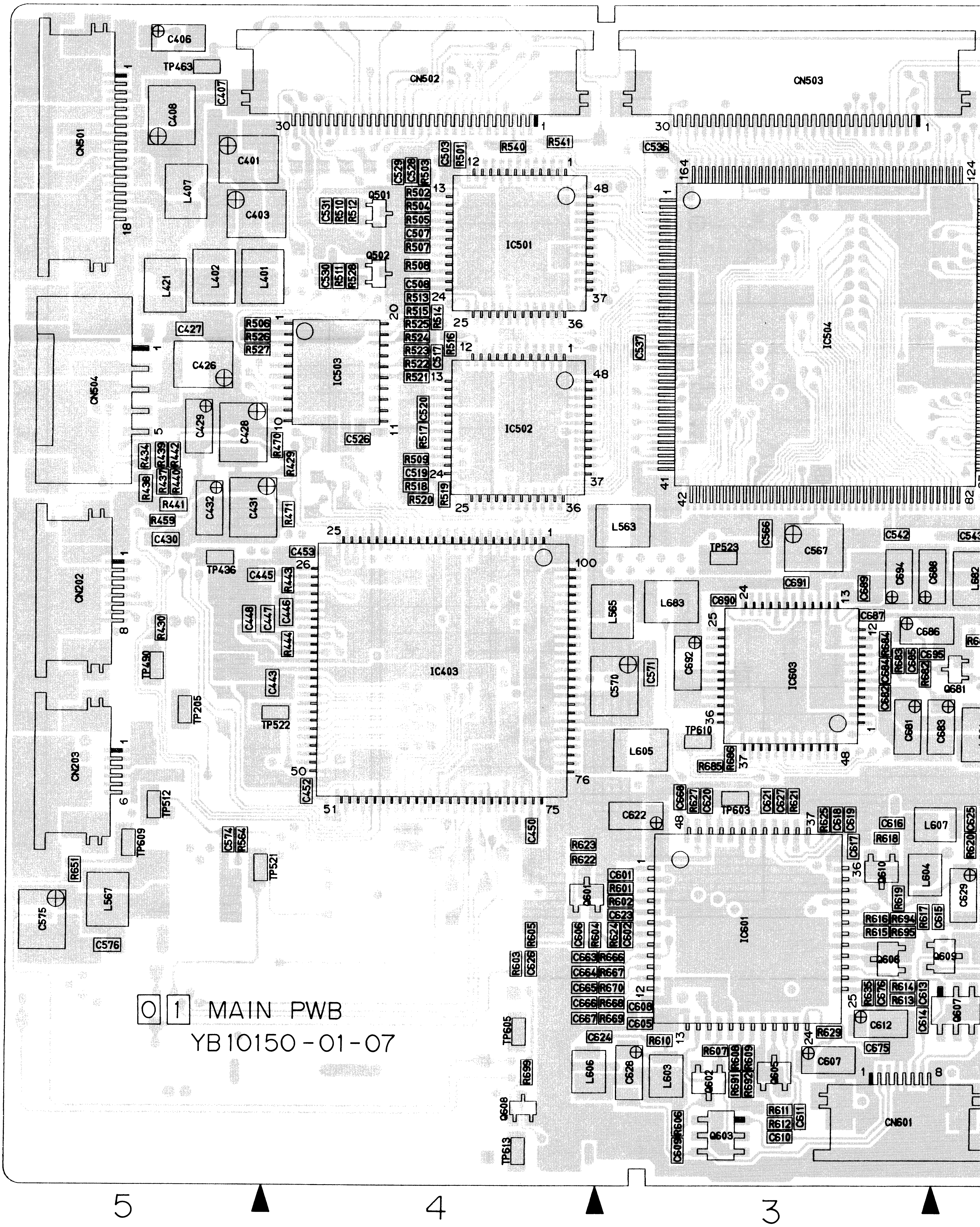
TP605	A	C	4A
TP606	A	C	2B
TP607	A	C	4A
TP608	A	C	5A
TP609	A	C	5B
TP610	A	C	3B
TP611	A	C	2A
TP612	A	C	4A
TP613	A	C	4A
TP624	B	C	3A
RESONATOR			
X201	B	C	2B
X251	B	C	1B
X401	B	C	5D
X441	B	C	4B
X442	B	C	4B
X560	B	C	5A

COMPONENT SIDE (A)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TP205
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IC403
C453
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CN203
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TP521
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TP610
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Q608
R611
R612
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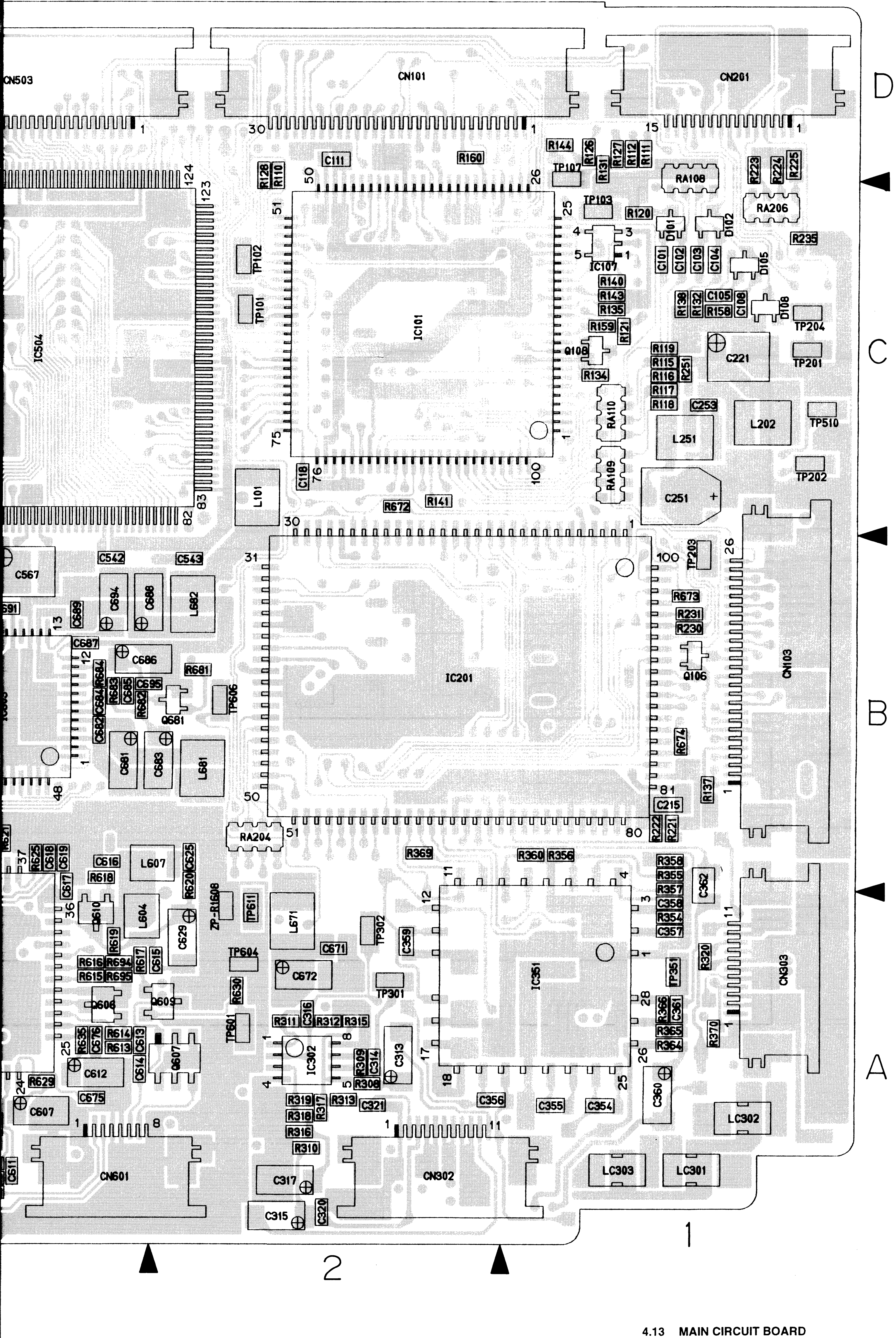
CN601
01 MAIN PWB
YB10150-01-07
5
4
3

NT SIDE (A)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CN101
CN201
D
C
B
A
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CN302
C111
R160
R144
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R131
TP107
TP103
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C355
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C360
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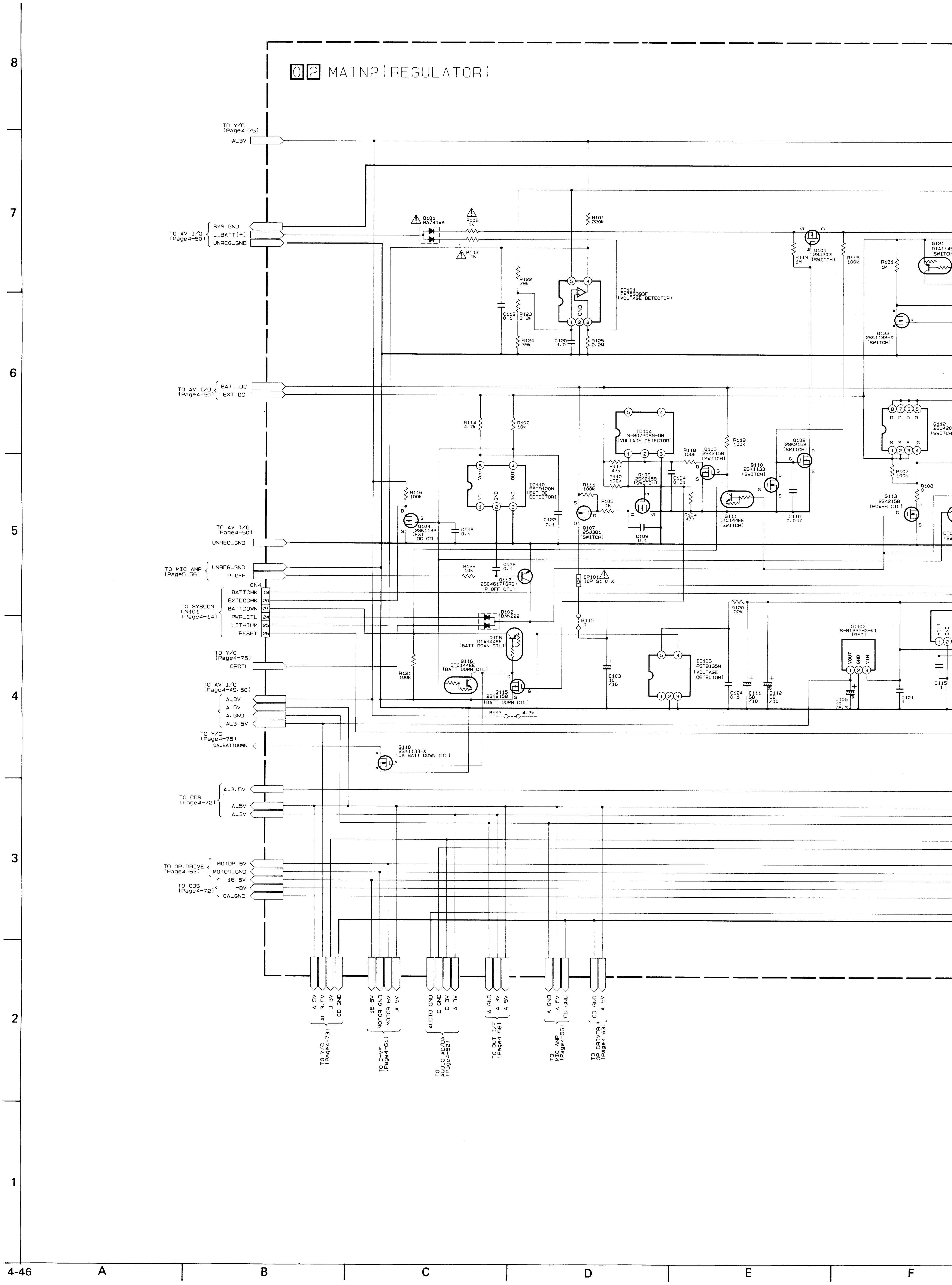
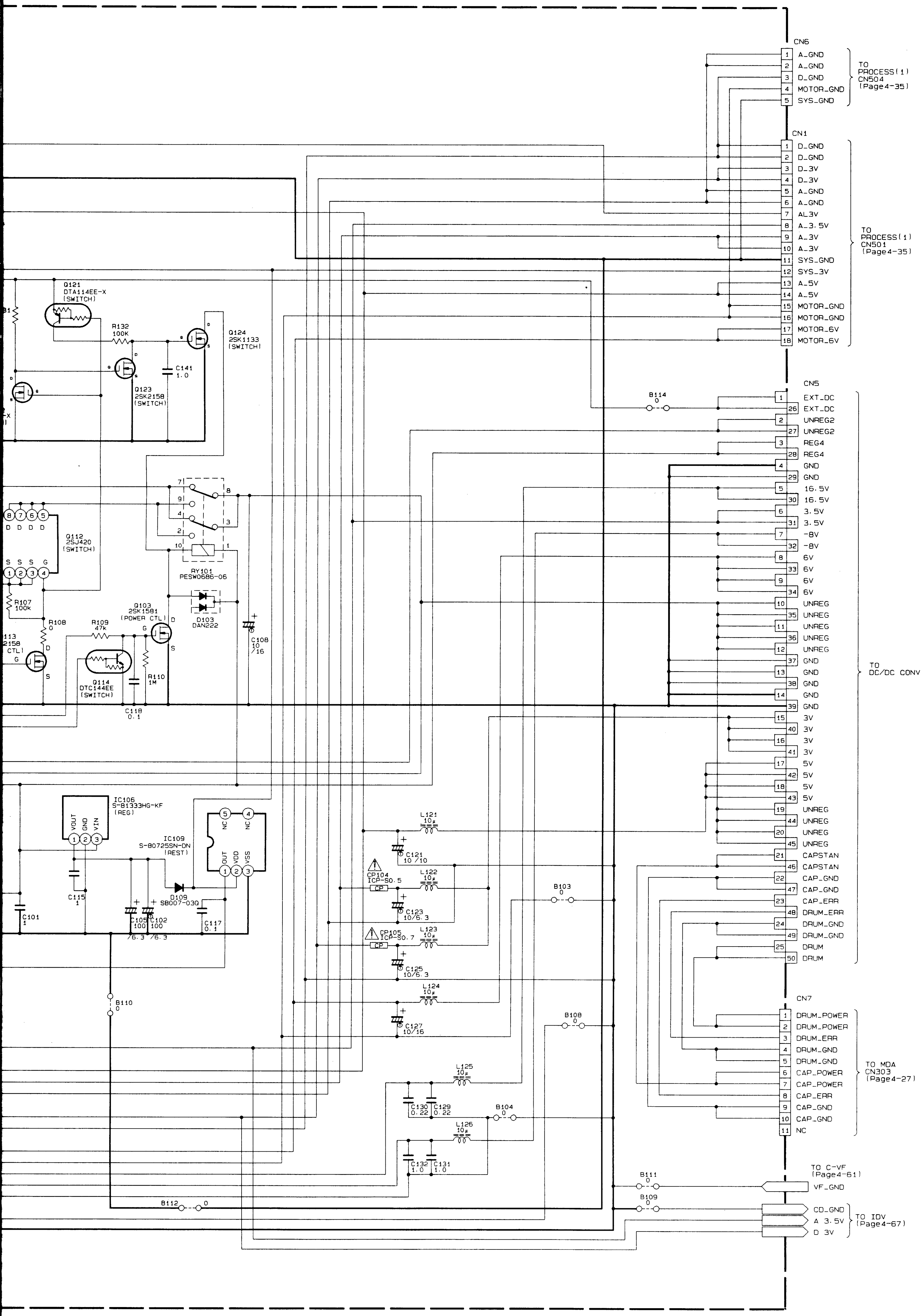
R621

4.13 MAIN CIRCUIT BOARD

4.14 REGULATOR SCHEMATIC DIAGRAM



02 MAIN2 (REGULATOR)
TO Y/C (Page4-75)
AL3V
TO AV I/O (Page4-50)
SYS GND
L_BATT(+)
UNREG_GND
D101 MA741WA
R106 1k
R103 1k
R101 220k
R122 39k
C119 0.1
R123 3.3k
R124 39k
C120 1.0
R125 2.2M
IC101 TA75S393F (VOLTAGE DETECTOR)
Q101 2SJ203 (SWITCH)
R113 1M
R115 100k
R131 1M
Q121 DTA114E (SWITCH)
Q122 2SK1133-X (SWITCH)
TO AV I/O (Page4-50)
BATT_DC
EXT_DC
R114 4.7k
R102 10k
IC110 PST9120N (EXT DC DETECTOR)
IC104 S-80720SN-DH (VOLTAGE DETECTOR)
R117 47k
R112 100k
R118 100k
Q105 2SK2158 (SWITCH)
R119 100k
Q102 2SK2158 (SWITCH)
Q109 2SK2158 (SWITCH)
C104 0.01
Q110 2SK1133 (SWITCH)
R116 100k
Q104 2SK1133 (EXT DC CTL)
C116 0.1
C122 0.1
R111 100k
R105 1k
Q107 2SJ381 (SWITCH)
C109 0.1
R104 47K
Q111 DTC144EE (SWITCH)
C110 0.047
Q112 2SJ420 (SWITCH)
R107 100k
R108 0
Q113 2SK2158 (POWER CTL)
TO AV I/O (Page4-50)
UNREG_GND
TO MIC AMP (Page5-56)
UNREG_GND
P_OFF
CN4
TO SYSCON CN101 (Page4-14)
BATTCHK 19
EXTDCCHK 20
BATTDOWN 21
PWR_CTL 24
LITHIUM 25
RESET 26
R128 10k
C126 0.1
Q117 2SC4617(QRS) (P.OFF CTL)
CP101 ICP-S1.0-X
D102 DAN222
Q106 DTA144EE (BATT DOWN CTL)
B115 0
R120 22k
IC102 S-81335HG-KI (REG)
VOUT GND VIN
TO Y/C (Page4-75)
CRCTL
Q116 DTC144EE (BATT DOWN CTL)
Q115 2SK2158 (BATT DOWN CTL)
R121 100k
C103 10 /16
IC103 PST9135N (VOLTAGE DETECTOR)
C124 0.1
C111 68 /10
C112 68 /10
C106 10 /6.3
C101 1
C115 1
TO AV I/O (Page4-49, 50)
AL3V
A 5V
A. GND
AL3.5V
B113 4.7k
TO Y/C (Page4-75)
CA_BATTDOWN
Q118 2SK1133-X (CA BATT DOWN CTL)
TO CDS (Page4-72)
A_3.5V
A_5V
A_3V
TO OP. DRIVE (Page4-63)
MOTOR_6V
MOTOR_GND
TO CDS (Page4-72)
16.5V
-8V
CA_GND
A 5V
AL 3.5V
D 3V
CD GND
TO Y/C (Page4-73)
16.5V
MOTOR GND
MOTOR 6V
A 5V
TO C-VF (Page4-61)
AUDIO GND
D GND
D 3V
A 3V
TO AUDIO AD/DA (Page4-52)
A GND
A 3V
A 5V
TO OUT I/F (Page4-58)
A GND
A 5V
CD GND
TO MIC AMP (Page4-56)
CD GND
A 5V
TO OP DRIVER (Page4-63)
8
7
6
5
4
3
2
1
A
B
C
D
E
F


CN6
1 A_GND
2 A_GND
3 D_GND
4 MOTOR_GND
5 SYS_GND
TO PROCESS(1) CN504 (Page4-35)
CN1
1 D_GND
2 D_GND
3 D_3V
4 D_3V
5 A_GND
6 A_GND
7 AL3V
8 A_3.5V
9 A_3V
10 A_3V
11 SYS_GND
12 SYS_3V
13 A_5V
14 A_5V
15 MOTOR_GND
16 MOTOR_GND
17 MOTOR_6V
18 MOTOR_6V
TO PROCESS(1) CN501 (Page4-35)
Q121 DTA114EE-X (SWITCH)
R132 100K
Q124 2SK1133 (SWITCH)
C141 1.0
Q123 2SK2158 (SWITCH)
Q112 2SJ420 (SWITCH)
R107 100K
R108 0
R109 47k
Q103 2SK1581 (POWER CTL)
RY101 PESW0686-06
D103 DAN222
C108 10 /16
Q114 DTC144EE (SWITCH)
R110 1M
C118 0.1
B114 0
CN5
1 EXT_DC
26 EXT_DC
2 UNREG2
27 UNREG2
3 REG4
28 REG4
4 GND
29 GND
5 16.5V
30 16.5V
6 3.5V
31 3.5V
7 -8V
32 -8V
8 6V
33 6V
9 6V
34 6V
10 UNREG
35 UNREG
11 UNREG
36 UNREG
12 UNREG
37 GND
13 GND
38 GND
14 GND
39 GND
15 3V
40 3V
16 3V
41 3V
17 5V
42 5V
18 5V
43 5V
19 UNREG
44 UNREG
20 UNREG
45 UNREG
21 CAPSTAN
46 CAPSTAN
22 CAP_GND
47 CAP_GND
23 CAP_ERR
48 DRUM_ERR
24 DRUM_GND
49 DRUM_GND
25 DRUM
50 DRUM
TO DC/DC CONV
IC106 S-81333HG-KF (REG)
VOUT GND VIN
IC109 S-80725SN-DN (REST)
NC NC OUT VDD VSS
C115 1
C101 1
D109 SB007-03Q
C105 100 /6.3
C102 100 /6.3
C117 0.1
B110 0
L121 10μ
C121 10 /10
CP104 ICP-S0.5
L122 10μ
C123 10/6.3
CP105 ICP-S0.7
L123 10μ
C125 10/6.3
L124 10μ
C127 10/16
B103 0
B108 0
CN7
1 DRUM_POWER
2 DRUM_POWER
3 DRUM_ERR
4 DRUM_GND
5 DRUM_GND
6 CAP_POWER
7 CAP_POWER
8 CAP_ERR
9 CAP_GND
10 CAP_GND
11 NC
TO MDA CN303 (Page4-27)
L125 10μ
C130 0.22
C129 0.22
B104 0
L126 10μ
C132 1.0
C131 1.0
B111 0
B109 0
B112 0
TO C-VF (Page4-61)
VF_GND
CD_GND
A 3.5V
D 3V
TO IDV (Page4-67)

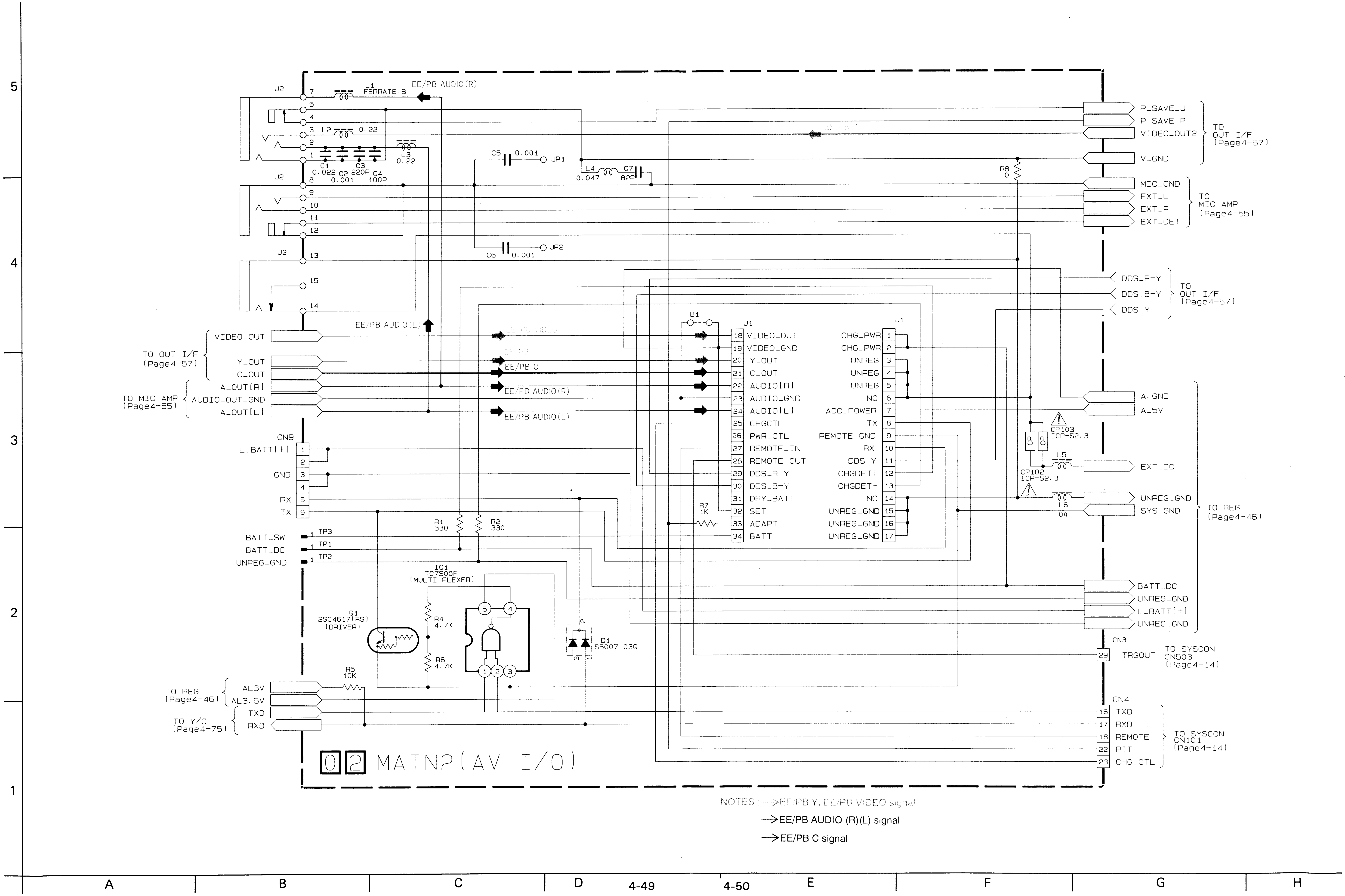
<REGULATOR>

MODE / PIN	REC	PLAY
IC101		
1	2.3	2.3
2	0	0
3	0	0
4	0	0
5	4.6	4.6
IC102		
1	3.4	3.4
2	0	0
3	5.7	5.7
IC104		
1	0	0
2	1.2	1.7
3	0	0
4	0	0
5	0	0
IC106		
1	3.2	3.2
2	0	0
3	5.7	5.7
IC109		
1	2.8	2.8
2	2.8	2.8
3	0	0
4	0	0
5	0	0
IC110		
1	0	0
2	0	0
3	0	0
4	4.4	4.3
5	6.1	6.0
Q101		
S	2.5	2.5
G	2.2	2.2
D	2.8	2.8
Q102		
S	0	0
G	0	0
D	2.2	2.3
Q103		
S	0	0
G	0	0
D	5.7	5.7
Q104		
S	4.4	4.4
G	0	0
D	0	0
Q105		
S	0	0
G	0	0
D	1.5	1.9
Q106		
E	2.6	2.6
C	2.6	2.6
B	0	0
Q107		
S	1.5	1.9
G	1.5	1.9
D	1.9	2.3
Q109		
S	0	0
G	1.5	1.9
D	0	0
Q110		
S	2.6	2.6
G	0	0
D	0	0
Q111		
E	0	0
C	0	0
B	2.9	2.9
Q112		
1	6.1	6.0
2	6.1	6.0
3	6.1	6.0
4	0	0
5	6.0	6.0
6	6.0	6.0
7	6.0	6.0
8	6.0	6.0
Q113		
S	0	0
G	2.9	2.9
D	0	0

MODE / PIN	REC	PLAY
Q114		
E	0	0
C	0	0
B	4.3	4.3
Q115.		
S	0	0
G	0	0
D	0	0
Q116		
E	0	0
C	0	0
B	4.4	4.3

4.14 REGULATOR SCHEMATIC DIAGRAM

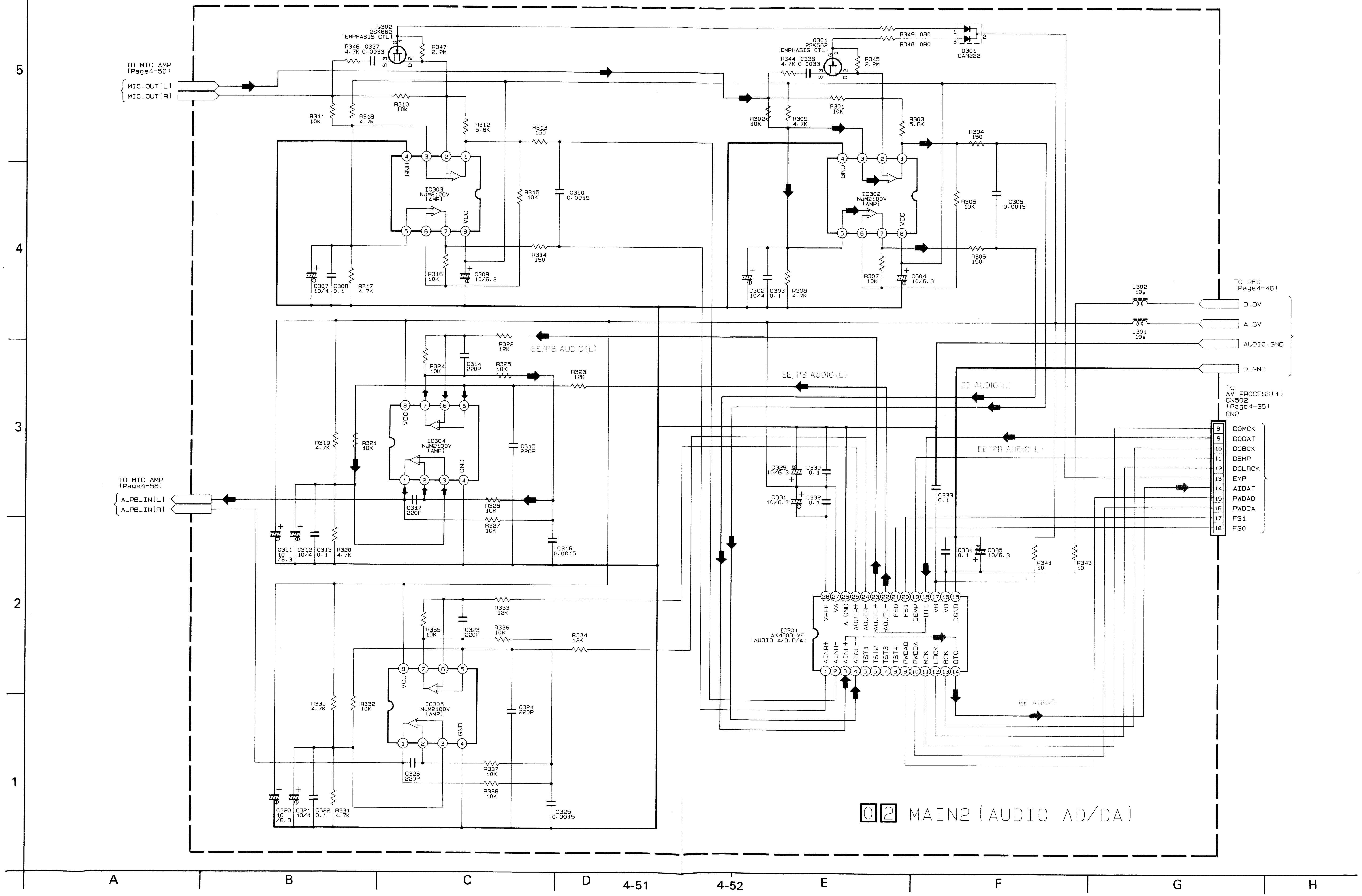
4.15 AV I/O SCHEMATIC DIAGRAM


5
4
3
2
1
A
B
C
D
E
F
G
H
J2
L1 FERRATE.B
EE/PB AUDIO(R)
L2 0.22
L3 0.22
C1 0.022
C2 0.001
C3 220P
C4 100P
C5 0.001
JP1
L4 0.047
C7 82P
C6 0.001
JP2
R8 0
P_SAVE_J
P_SAVE_P
VIDEO_OUT2
V_GND
TO OUT I/F (Page4-57)
MIC_GND
EXT_L
EXT_R
EXT_DET
TO MIC AMP (Page4-55)
DDS_R-Y
DDS_B-Y
DDS_Y
TO OUT I/F (Page4-57)
EE/PB AUDIO(L)
VIDEO_OUT
Y_OUT
C_OUT
A_OUT(R)
AUDIO_OUT_GND
A_OUT(L)
TO OUT I/F (Page4-57)
TO MIC AMP (Page4-55)
EE/PB VIDEO
EE/PB Y
EE/PB C
EE/PB AUDIO(R)
EE/PB AUDIO(L)
B1
J1
18 VIDEO_OUT
19 VIDEO_GND
20 Y_OUT
21 C_OUT
22 AUDIO(R)
23 AUDIO_GND
24 AUDIO(L)
25 CHGCTL
26 PWR_CTL
27 REMOTE_IN
28 REMOTE_OUT
29 DDS_R-Y
30 DDS_B-Y
31 DRY_BATT
32 SET
33 ADAPT
34 BATT
CHG_PWR 1
CHG_PWR 2
UNREG 3
UNREG 4
UNREG 5
NC 6
ACC_POWER 7
TX 8
REMOTE_GND 9
RX 10
DDS_Y 11
CHGDET+ 12
CHGDET- 13
NC 14
UNREG_GND 15
UNREG_GND 16
UNREG_GND 17
R7 1K
CP103 ICP-S2.3
CP102 ICP-S2.3
CP
CP
L5
L6 0Ω
A.GND
A_5V
EXT_DC
UNREG_GND
SYS_GND
TO REG (Page4-46)
CN9
L_BATT(+) 1
2
GND 3
4
RX 5
TX 6
R1 330
R2 330
TP3 BATT_SW
TP1 BATT_DC
TP2 UNREG_GND
IC1 TC7S00F (MULTI PLEXER)
Q1 2SC4617(RS) (DRIVER)
R4 4.7K
R6 4.7K
R5 10K
D1 SB007-03Q
BATT_DC
UNREG_GND
L_BATT(+)
UNREG_GND
CN3
29 TRGOUT
TO SYSCON CN503 (Page4-14)
CN4
16 TXD
17 RXD
18 REMOTE
22 PIT
23 CHG_CTL
TO SYSCON CN101 (Page4-14)
TO REG (Page4-46)
AL3V
AL3.5V
TO Y/C (Page4-75)
TXD
RXD
02 MAIN2(AV I/O)

NOTES : --->EE/PB Y, EE/PB VIDEO signal
→EE/PB AUDIO (R)(L) signal
→EE/PB C signal

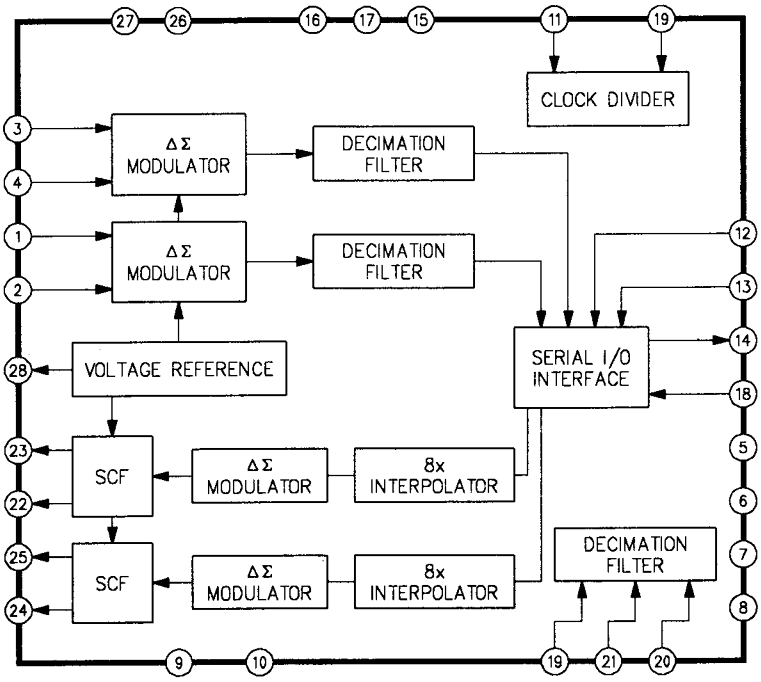
4.16 AUDIO AD/DA SCHEMATIC DIAGRAM

NOTE : —> EE/PB AUDIO, EE AUDIO signal

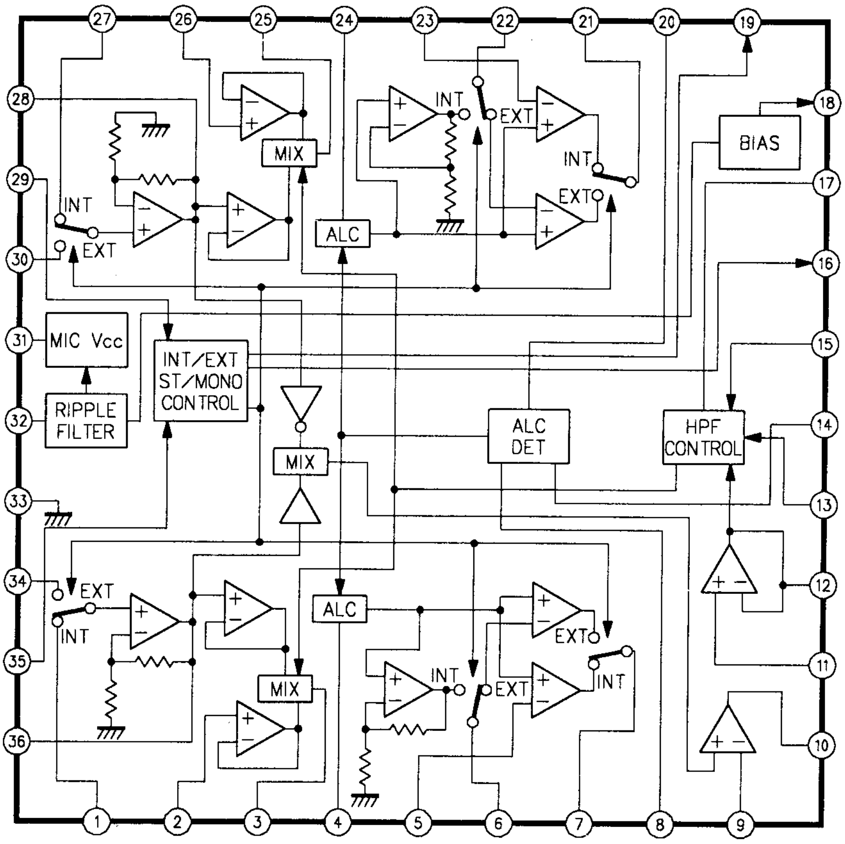


5
4
3
2
1
A
B
C
D
E
F
G
H
TO MIC AMP (Page4-56)
MIC_OUT(L)
MIC_OUT(R)
Q302 2SK662 (EMPHASIS CTL)
R346 4.7K
C337 0.0033
R347 2.2M
R311 10K
R318 4.7K
R310 10K
R312 5.6K
R313 150
IC303 NJM2100V (AMP)
GND
VCC
R315 10K
C310 0.0015
R314 150
R316 10K
C309 10/6.3
C307 10/4
C308 0.1
R317 4.7K
Q301 2SK662 (EMPHASIS CTL)
R344 4.7K
C336 0.0033
R345 2.2M
R349 0R0
R348 0R0
D301 DAN222
R302 10K
R309 4.7K
R301 10K
R303 5.6K
R304 150
IC302 NJM2100V (AMP)
R306 10K
C305 0.0015
R305 150
R307 10K
C304 10/6.3
C302 10/4
C303 0.1
R308 4.7K
L302 10μ
L301 10μ
TO REG (Page4-46)
D_3V
A_3V
AUDIO_GND
D_GND
R322 12K
EE/PB AUDIO(L)
R324 10K
C314 220P
R325 10K
R323 12K
IC304 NJM2100V (AMP)
R319 4.7K
R321 10K
C315 220P
TO MIC AMP (Page4-56)
A_PB_IN(L)
A_PB_IN(R)
C317 220P
R326 10K
R327 10K
C311 10/6.3
C312 10/4
C313 0.1
R320 4.7K
C316 0.0015
EE/PB AUDIO(L)
EE AUDIO(L)
EE/PB AUDIO(L)
TO AV PROCESS(1) CN502 (Page4-35) CN2
8 DOMCK
9 DODAT
10 DOBCK
11 DEMP
12 DOLRCK
13 EMP
14 AIDAT
15 PWDAD
16 PWDDA
17 FS1
18 FS0
C329 10/6.3
C330 0.1
C331 10/6.3
C332 0.1
C333 0.1
C334 0.1
C335 10/6.3
R341 10
R343 10
R333 12K
R335 10K
C323 220P
R336 10K
R334 12K
IC305 NJM2100V (AMP)
R330 4.7K
R332 10K
C324 220P
C326 220P
R337 10K
R338 10K
C320 10/6.3
C321 10/4
C322 0.1
R331 4.7K
C325 0.0015
IC301 AK4503-VF (AUDIO A/D.D/A)
VREF
VA
A.GND
AOUTR+
AOUTR-
AOUTL+
AOUTL-
FS0
FS1
DEMP
DTI
VB
VD
DGND
AINR+
AINR-
AINL+
AINL-
TST1
TST2
TST3
TST4
PWDAD
PWDDA
MCK
LRCK
BCK
DTO
EE AUDIO
02 MAIN2 (AUDIO AD/DA)

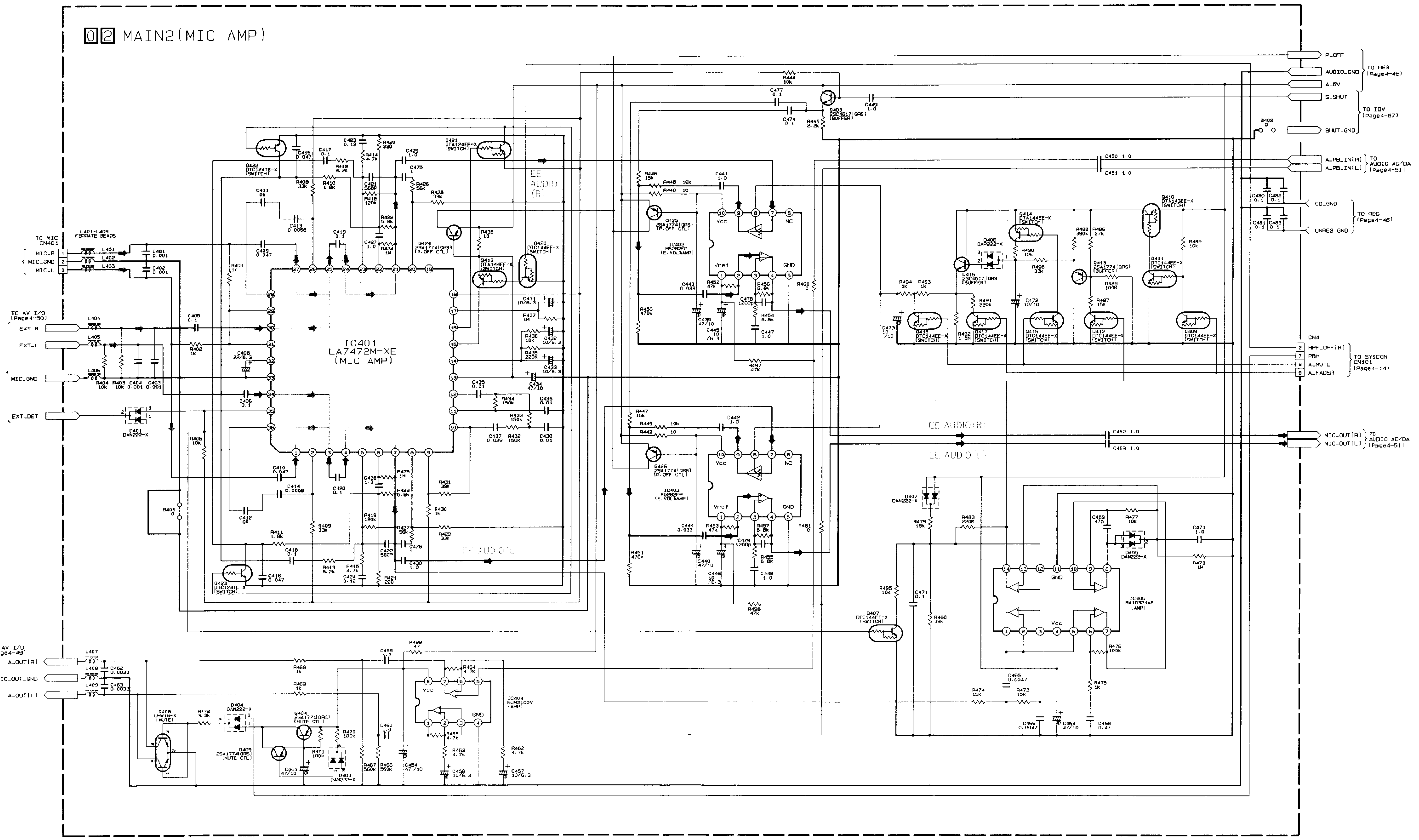
IC301 AK4503-VF


27
26
16
17
15
11
19
CLOCK DIVIDER
3
4
ΔΣ MODULATOR
DECIMATION FILTER
1
2
ΔΣ MODULATOR
DECIMATION FILTER
12
13
14
18
28
VOLTAGE REFERENCE
SERIAL I/O INTERFACE
23
22
SCF
ΔΣ MODULATOR
8x INTERPOLATOR
5
6
25
24
SCF
ΔΣ MODULATOR
8x INTERPOLATOR
DECIMATION FILTER
7
8
9
10
19
21
20

IC401 LA7472M-XE

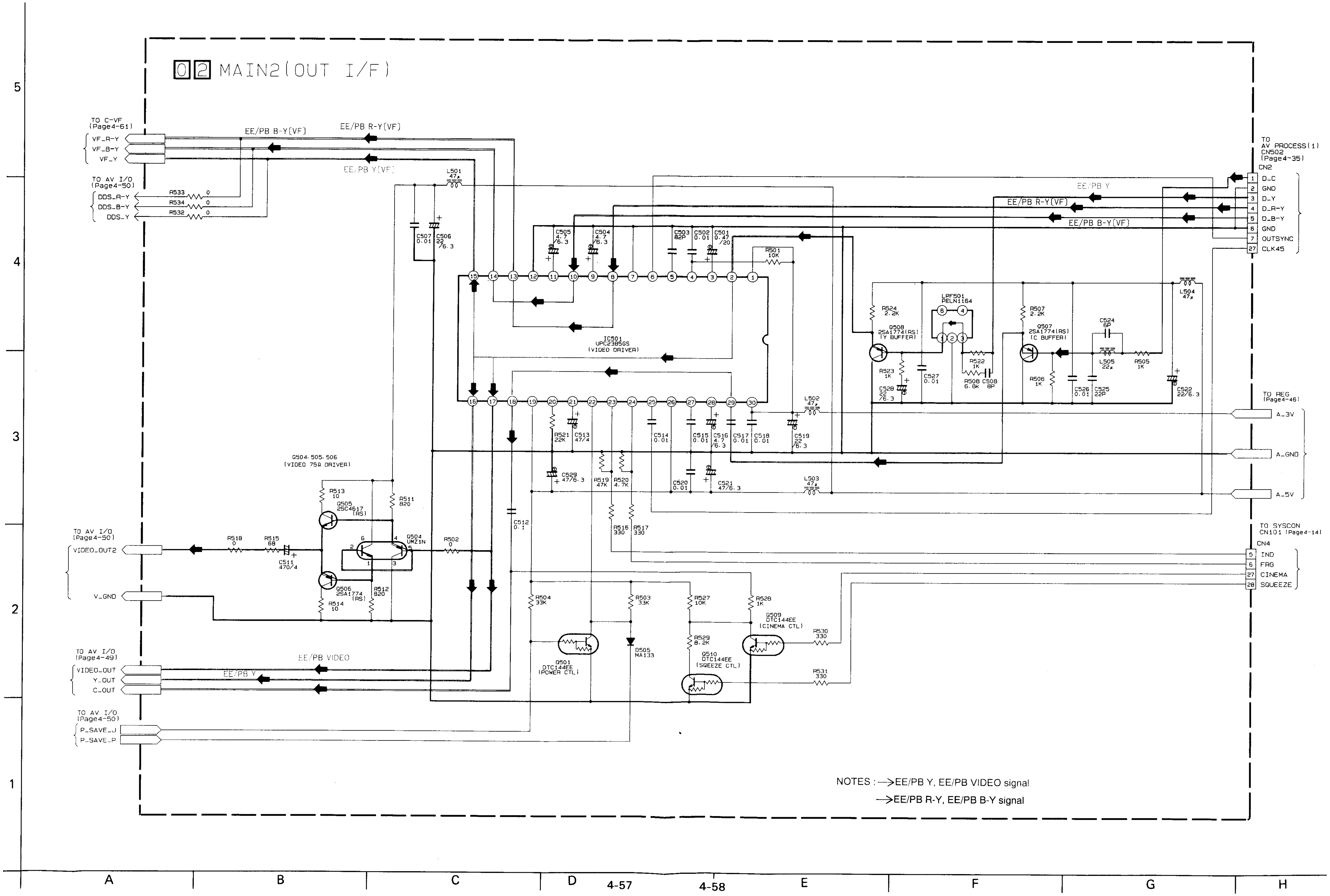

27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
28
29
30
31
32
33
34
35
36
MIX
ALC
INT
EXT
BIAS
MIC Vcc
RIPPLE FILTER
INT/EXT ST/MONO CONTROL
ALC DET
HPF CONTROL

4.17 MIC AMP SCHEMATIC DIAGRAM


02 MAIN2(MIC AMP)
IC401
LA7472M-XE
(MIC AMP)
IC402
M5282FP
(E.VOL&AMP)
IC403
M5282FP
(E.VOL&AMP)
IC404
NJM2100V
(AMP)
IC405
BA10324AF
(AMP)
TO MIC
CN401
L401-L409
FERRITE BEADS
MIC_R
MIC_GND
MIC_L
TO AV I/O
(Page4-50)
EXT_R
EXT_L
MIC_GND
EXT_DET
D401
DAN222-X
TO AV I/O
(Page4-49)
A_OUT(R)
AUDIO_OUT_GND
A_OUT(L)
P_OFF
AUDIO_GND
A_5V
S_SHUT
SHUT_GND
TO REG
(Page4-46)
TO IDV
(Page4-57)
A_PB_IN(R)
A_PB_IN(L)
TO
AUDIO AD/DA
(Page4-51)
CD_GND
UNREG_GND
TO REG
(Page4-46)
CN4
HPF_OFF(H)
PBH
A_MUTE
A_FADER
TO SYSCON
CN101
(Page4-14)
MIC_OUT(R)
MIC_OUT(L)
TO
AUDIO AD/DA
(Page4-51)
EE AUDIO (R)
EE AUDIO (L)
Q403
2SC4617(QRS)
(BUFFER)
Q421
DTA124EE-X
(SWITCH)
Q422
DTC124TE-X
(SWITCH)
Q423
DTC124TE-X
(SWITCH)
Q424
2SA1774(QRS)
(P.OFF CTL)
Q425
2SA1774(QRS)
(P.OFF CTL)
Q426
2SA1774(QRS)
(P.OFF CTL)
Q419
DTA144EE-X
(SWITCH)
Q420
DTC144EE-X
(SWITCH)
Q404
2SA1774(QRS)
(MUTE CTL)
Q405
2SA1774(QRS)
(MUTE CTL)
Q406
UMX1N-X
(MUTE)
Q407
DTC144EE-X
(SWITCH)
Q409
DTC144EE-X
(SWITCH)
Q410
DTA143EE-X
(SWITCH)
Q411
DTC144EE-X
(SWITCH)
Q412
DTC144EE-X
(SWITCH)
Q413
2SA1774(QRS)
(BUFFER)
Q414
DTA144EE-X
(SWITCH)
Q415
DTC144EE-X
(SWITCH)
Q416
2SC4617(QRS)
(BUFFER)
Q417
DTC144EE-X
(SWITCH)
Q418
DTC144EE-X
(SWITCH)
D403
DAN222-X
D404
DAN222-X
D405
DAN222-X
D406
DAP222-X
D407
DAN222-X
B401
B402
Vcc
Vref
GND
NC
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE : —>EE AUDIO signal

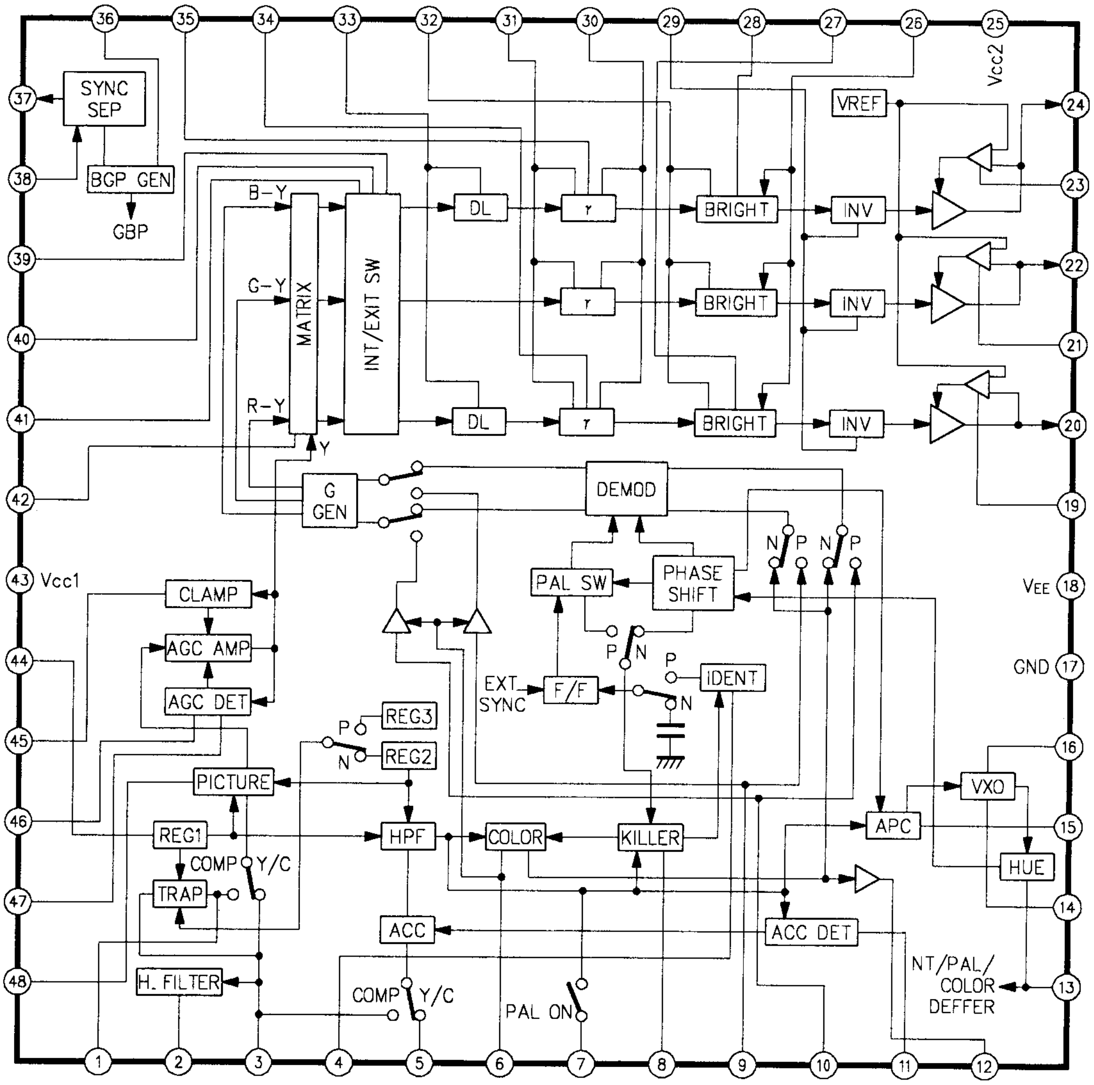
4.18 OUT I/F SCHEMATIC DIAGRAM


02 MAIN2(OUT I/F)
TO C-VF (Page4-61)
VF_R-Y
VF_B-Y
VF_Y
EE/PB B-Y(VF)
EE/PB R-Y(VF)
EE/PB Y(VF)
TO AV I/O (Page4-50)
DDS_R-Y
DDS_B-Y
DDS_Y
R533 0
R534 0
R532 0
L501 47μ
C507 0.01
C506 22/6.3
C505 4.7/6.3
C504 4.7/6.3
C503 82P
C502 0.01
C501 0.47/20
R501 10K
IC501 UPC2385GS (VIDEO DRIVER)
R521 22K
C513 47/4
C514 0.01
C515 0.01
C516 4.7/6.3
C517 0.01
C518 0.01
C519 22/6.3
L502 47μ
C529 47/6.3
R519 47K
R520 4.7K
C520 0.01
C521 47/6.3
L503 47μ
R516 330
R517 330
C512 0.1
Q504, 505, 506 (VIDEO 75Ω DRIVER)
R513 10
Q505 2SC4617 (RS)
R511 820
Q504 UMZ1N
R502 0
Q506 2SA1774 (RS)
R512 820
R514 10
R518 0
R515 68
C511 470/4
TO AV I/O (Page4-50)
VIDEO_OUT2
V_GND
R504 33K
R503 33K
R527 10K
R528 1K
Q509 DTC144EE (CINEMA CTL)
R530 330
R531 330
R529 8.2K
Q510 DTC144EE (SQEEZE CTL)
Q501 DTC144EE (POWER CTL)
D505 MA133
TO AV I/O (Page4-49)
VIDEO_OUT
Y_OUT
C_OUT
EE/PB VIDEO
EE/PB Y
TO AV I/O (Page4-50)
P_SAVE_J
P_SAVE_P
TO AV PROCESS(1) CN502 (Page4-35)
CN2
1 D_C
2 GND
3 D_Y
4 D_R-Y
5 D_B-Y
6 GND
7 OUTSYNC
27 CLK45
EE/PB Y
EE/PB R-Y(VF)
EE/PB B-Y(VF)
R524 2.2K
Q508 2SA1774(RS) (Y BUFFER)
LPF501 PELN1164
R523 1K
C528 22/6.3
C527 0.01
R522 1K
R508 6.8K
C508 8P
R507 2.2K
Q507 2SA1774(RS) (C BUFFER)
R506 1K
C524 6P
L505 22μ
R505 1K
C526 0.01
C525 22P
L504 47μ
C522 22/6.3
TO REG (Page4-46)
A_3V
A_GND
A_5V
TO SYSCON CN101 (Page4-14)
CN4
5 IND
6 FRG
27 CINEMA
28 SQUEEZE
5
4
3
2
1
A
B
C
D
E
F
G
H

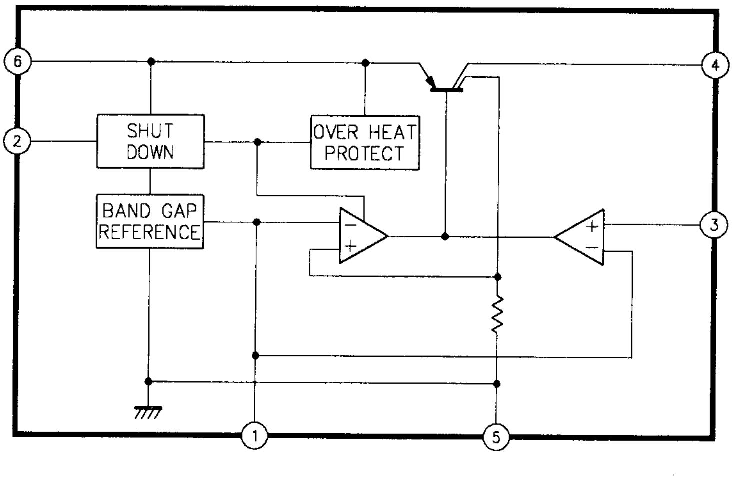
NOTES : →EE/PB Y, EE/PB VIDEO signal
→EE/PB R-Y, EE/PB B-Y signal

MEMO

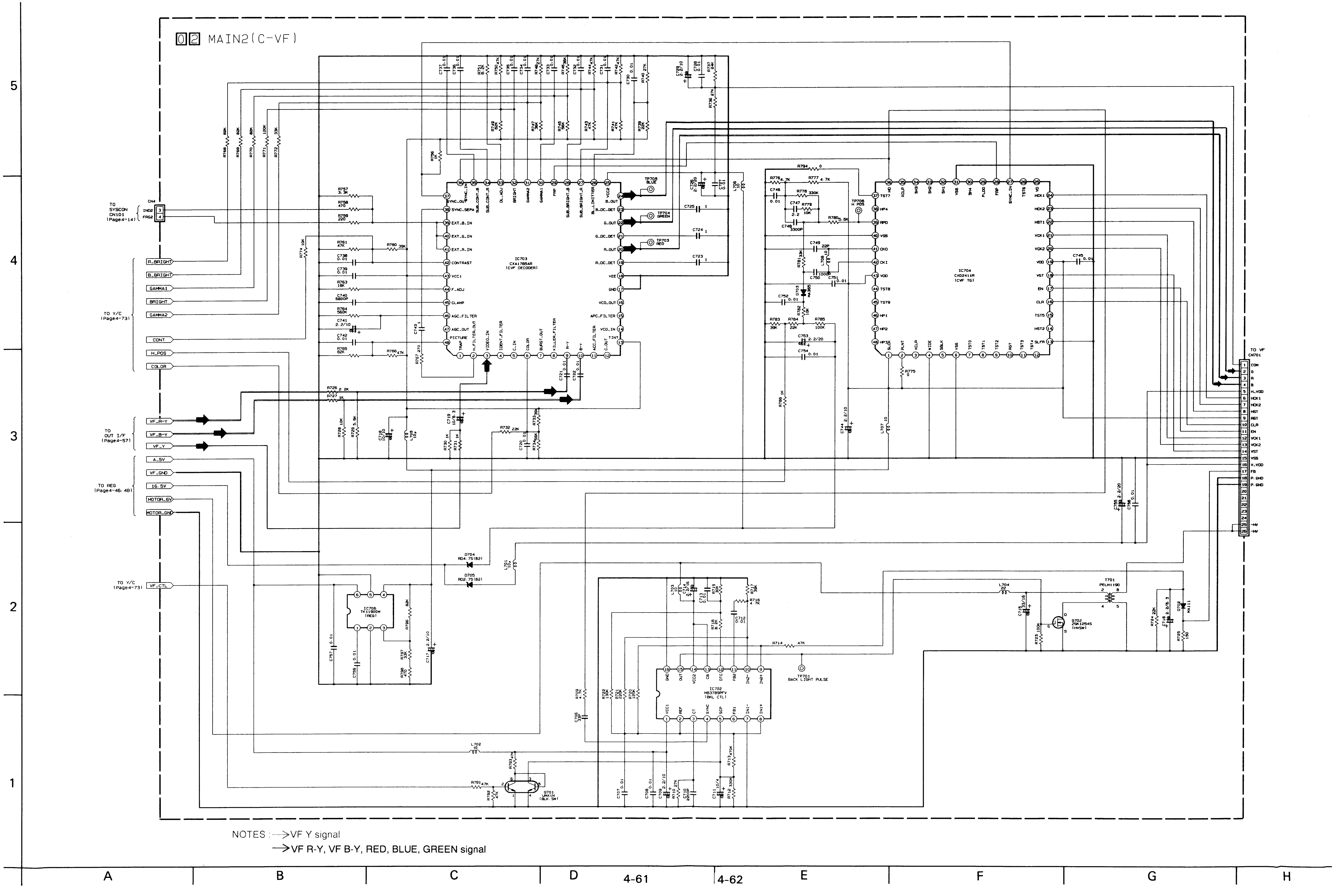
IC703 CXA1785AR


36
35
34
33
32
31
30
29
28
27
26
25
Vcc2
37
SYNC SEP
38
BGP GEN
GBP
39
40
41
42
43
Vcc1
44
45
46
47
48
B-Y
G-Y
R-Y
Y
MATRIX
INT/EXIT SW
DL
γ
BRIGHT
INV
VREF
24
23
22
21
20
19
G GEN
DEMOD
N
P
N
P
PAL SW
PHASE SHIFT
P
N
P
IDENT
EXT SYNC
F/F
N
VEE
18
GND
17
16
CLAMP
AGC AMP
AGC DET
REG3
REG2
P
N
PICTURE
REG1
HPF
COLOR
KILLER
COMP
Y/C
TRAP
ACC
ACC DET
APC
VXO
HUE
15
14
H. FILTER
COMP
Y/C
PAL ON
NT/PAL/ COLOR DEFFER
13
1
2
3
4
5
6
7
8
9
10
11
12

IC706 TK11900M


6
2
SHUT DOWN
OVER HEAT PROTECT
BAND GAP REFERENCE
−
+
+
−
4
3
1
5

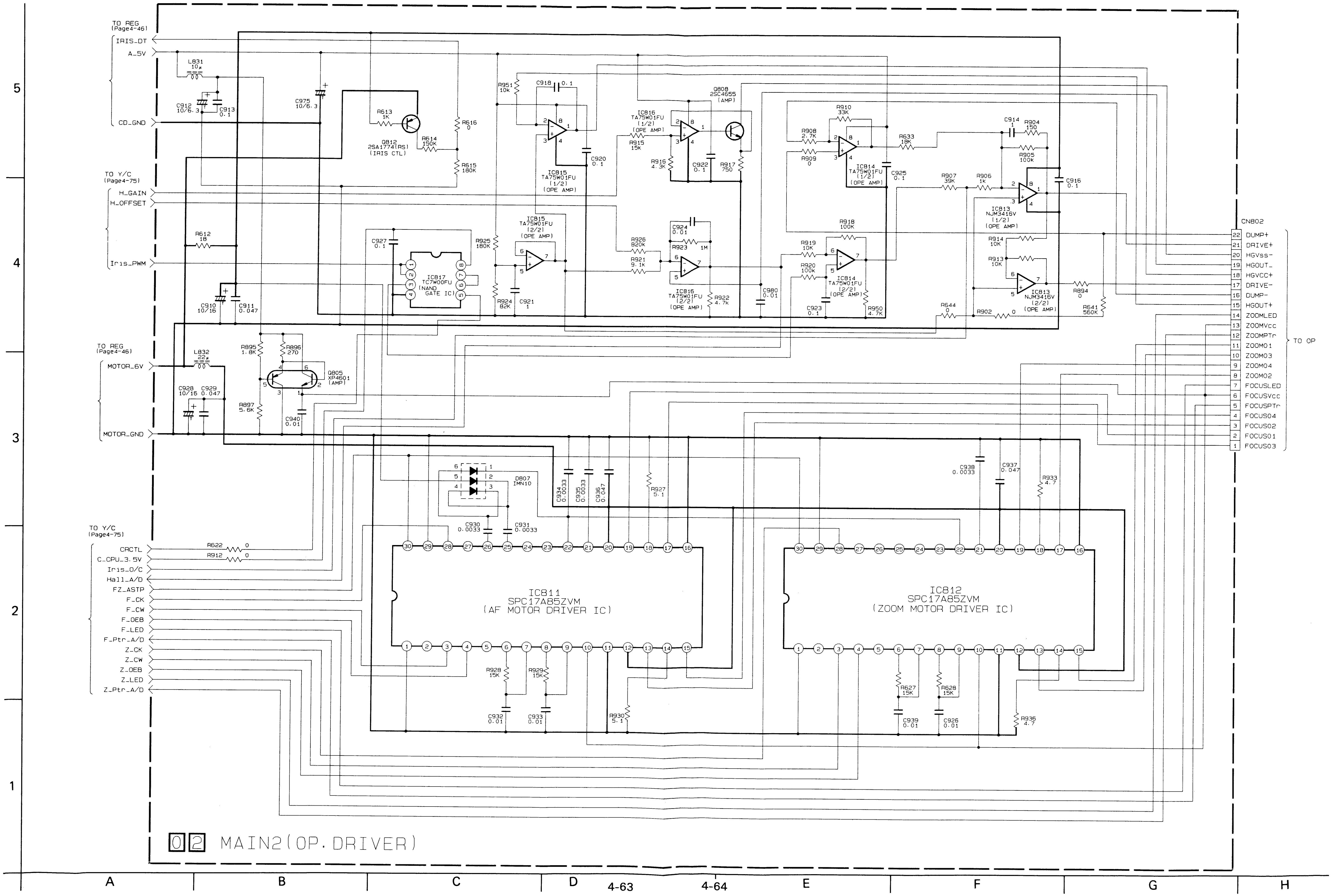
4.19 C-VF SCHEMATIC DIAGRAM


02 MAIN2(C-VF)
IC703
CXA1785AR
(CVF DECODER)
SYNC_OUT
SYNC_SEPA
EXT_B_IN
EXT_G_IN
EXT_R_IN
CONTRAST
VCC1
F_ADJ
CLAMP
AGC_FILTER
AGC_OUT
PICTURE
SYNC_IN
SUB_CONT_B
SUB_CONT_R
DL_ADJ
BRIGHT
GAMMA2
GAMMA1
FRP
SUB_BRIGHT_B
SUB_BRIGHT_R
BL_LIMITTER
VCC2
B_OUT
B_DC_DET
G_OUT
G_DC_DET
R_OUT
R_DC_DET
VEE
GND
VCO_OUT
APC_FILTER
VCO_IN
TINT
TP705 BLUE
TP704 GREEN
TP703 RED
IC704
CXD2411R
(CVF TG)
HCK1
HCK2
HST1
VCK1
VCK2
VDD
VST
EN
CLR
TST5
HST2
TP706 H POS
IC702
MB3789PFV
(BKL CTL)
GND
OUT
VCC2
CB
DTC
FB2
IN2-
IN2+
VCC1
REF
CT
SYNC
SCP
FB1
IN1-
IN1+
R714 47K
TP701 BACK LIGHT PULSE
IC706
TK11900M
(REG)
Q701
UMX1N
(BLK SW)
Q702
2SK1254S
(HVSW)
T701
D704
RD4.7S(B2)
D705
RD2.7S(B2)
D702
MA111
D703
MA365
TO SYSCON CN101 (Page4-14)
CN4
IND2
FRG2
R_BRIGHT
B_BRIGHT
GAMMA1
BRIGHT
GAMMA2
TO Y/C (Page4-73)
CONT
H_POS
COLOR
VF_R-Y
VF_B-Y
VF_Y
TO OUT I/F (Page4-57)
A_5V
VF_GND
16.5V
MOTOR_6V
MOTOR_GND
TO REG (Page4-46, 48)
TO Y/C (Page4-73)
VF_CTL
TO VF CN701
1 COM
2 G
3 R
4 B
5 H_VDD
6 HCK1
7 HCK2
8 HST
9 RGT
10 CLR
11 EN
12 VCK1
13 VCK2
14 VST
15 VSS
16 V_VDD
17 FB
18 P.GND
19 P.GND
25 -HV
26 -HV
5
4
3
2
1
A
B
C
D
E
F
G
H

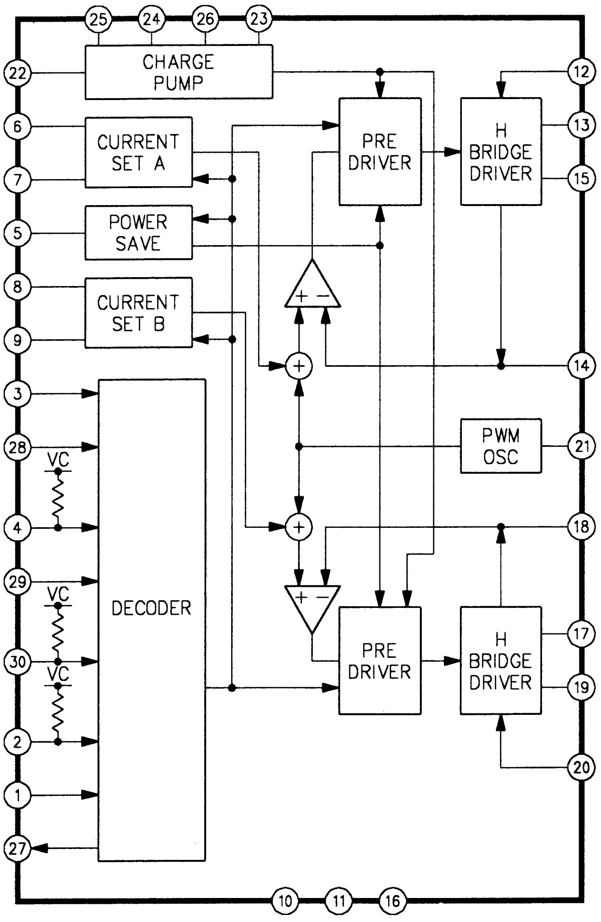
NOTES : ⇢VF Y signal

➔VF R-Y, VF B-Y, RED, BLUE, GREEN signal

4.20 OP. DRIVER SCHEMATIC DIAGRAM

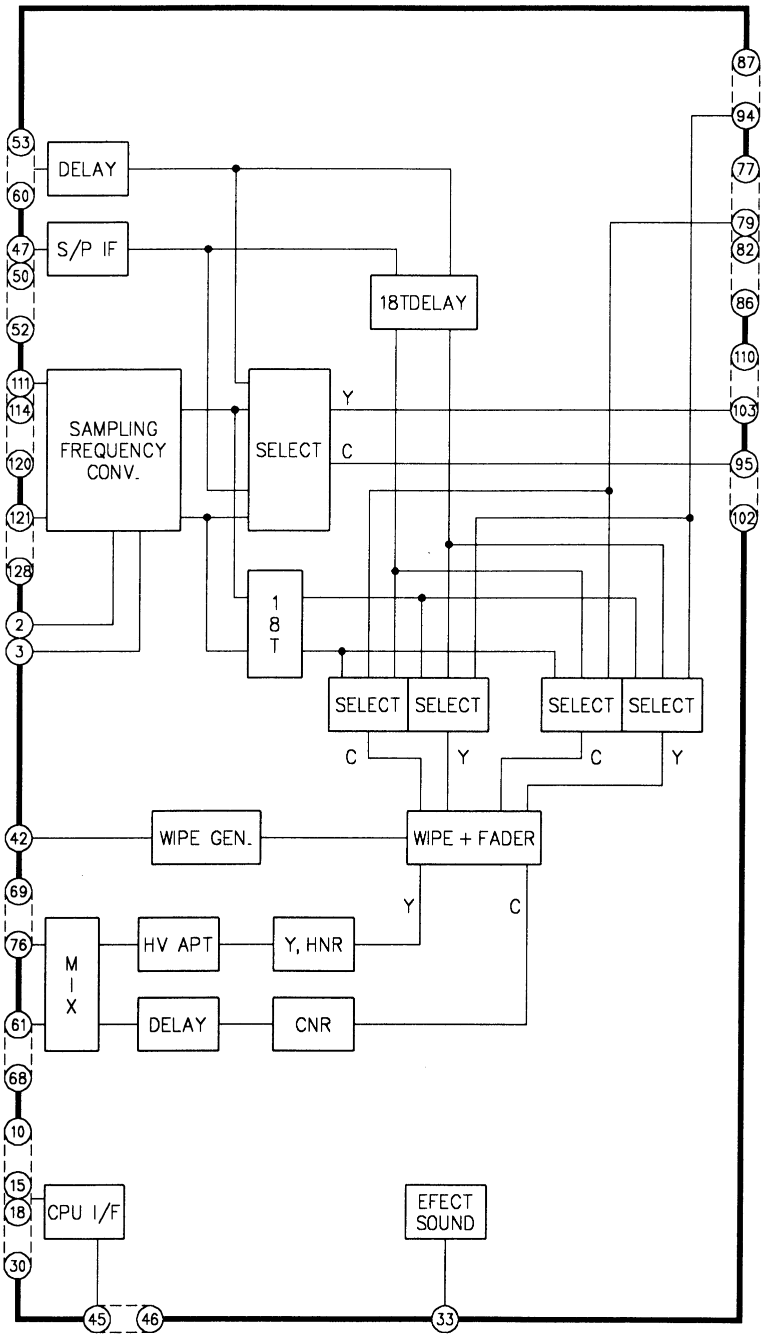

TO REG (Page4-46)
IRIS_DT
A_5V
CD_GND
TO Y/C (Page4-75)
H_GAIN
H_OFFSET
Iris_PWM
TO REG (Page4-46)
MOTOR_6V
MOTOR_GND
TO Y/C (Page4-75)
CRCTL
C_CPU_3.5V
Iris_O/C
Hall_A/D
FZ_ASTP
F_CK
F_CW
F_OEB
F_LED
F_Ptr_A/D
Z_CK
Z_CW
Z_OEB
Z_LED
Z_Ptr_A/D
L831 10μ
C912 10/6.3
C913 0.1
C975 10/6.3
R613 1K
Q812 2SA1774(RS) (IRIS CTL)
R614 150K
R616 0
R615 180K
R951 10k
C918 0.1
IC815 TA75W01FU (1/2) (OPE AMP)
C920 0.1
IC816 TA75W01FU (1/2) (OPE AMP)
R915 15k
R916 4.3K
C922 0.1
Q808 2SC4655 (AMP)
R917 750
R910 33K
R908 2.7K
R909 0
IC814 TA75W01FU (1/2) (OPE AMP)
C925 0.1
R633 18K
C914 1
R904 150
R905 100k
R907 39K
R906 1K
IC813 NJM3416V (1/2) (OPE AMP)
C916 0.1
R612 18
C927 0.1
IC817 TC7W00FU (NAND GATE IC)
R925 180K
IC815 TA75W01FU (2/2) (OPE AMP)
R924 82K
C921 1
C910 10/16
C911 0.047
R926 820k
C924 0.01
R923 1M
R921 9.1k
IC816 TA75W01FU (2/2) (OPE AMP)
R922 4.7k
C980 0.01
R918 100K
R919 10K
R920 100K
IC814 TA75W01FU (2/2) (OPE AMP)
C923 0.1
R950 4.7K
R914 10K
R913 10K
IC813 NJM3416V (2/2) (OPE AMP)
R894 0
R641 560K
R644 0
R902 0
L832 22μ
R895 1.8K
R896 270
Q805 XP4601 (AMP)
C928 10/16
C929 0.047
R897 5.6K
C940 0.01
D807 1MN10
C930 0.0033
C931 0.0033
C934 0.0033
C935 0.0033
C936 0.047
R927 5.1
C938 0.0033
C937 0.047
R933 4.7
R622 0
R912 0
IC811 SPC17A85ZVM (AF MOTOR DRIVER IC)
IC812 SPC17A85ZVM (ZOOM MOTOR DRIVER IC)
R928 15K
R929 15K
C932 0.01
C933 0.01
R930 5.1
R627 15K
R628 15K
C939 0.01
C926 0.01
R936 4.7
CN802
22 DUMP+
21 DRIVE+
20 HGVss-
19 HGOUT-
18 HGVCC+
17 DRIVE-
16 DUMP-
15 HGOUT+
14 ZOOMLED
13 ZOOMVcc
12 ZOOMPTr
11 ZOOM01
10 ZOOM03
9 ZOOM04
8 ZOOM02
7 FOCUSLED
6 FOCUSVcc
5 FOCUSPTr
4 FOCUS04
3 FOCUS02
2 FOCUS01
1 FOCUS03
TO OP
02 MAIN2(OP.DRIVER)
1
2
3
4
5
A
B
C
D
E
F
G
H

IC811
IC812 SPC17A85ZVM

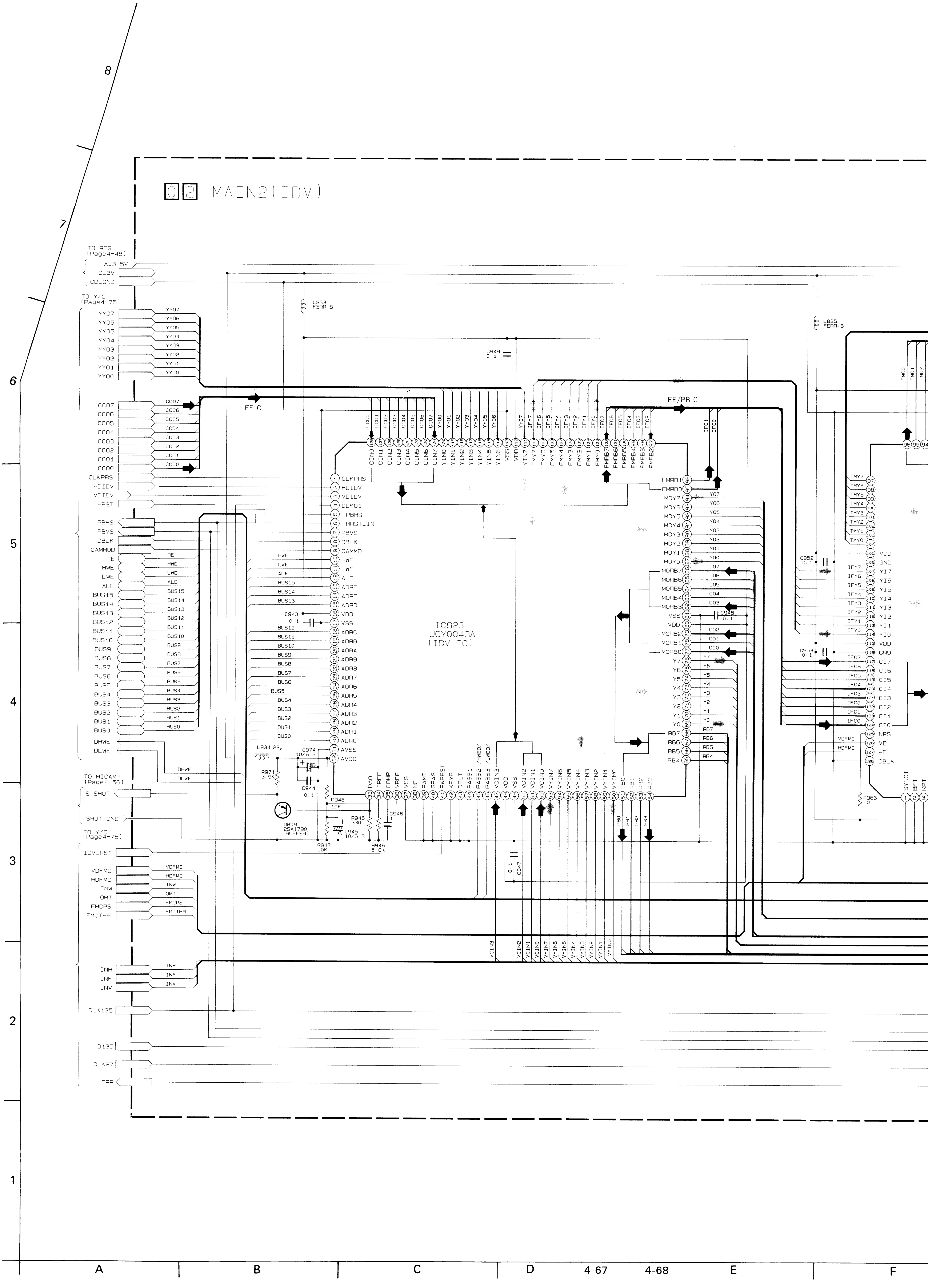


25
24
26
23
CHARGE PUMP
22
12
6
CURRENT SET A
PRE DRIVER
H BRIDGE DRIVER
13
7
15
5
POWER SAVE
8
CURRENT SET B
9
14
3
DECODER
28
VC
PWM OSC
21
4
18
29
VC
30
VC
PRE DRIVER
H BRIDGE DRIVER
17
19
2
20
1
27
10
11
16

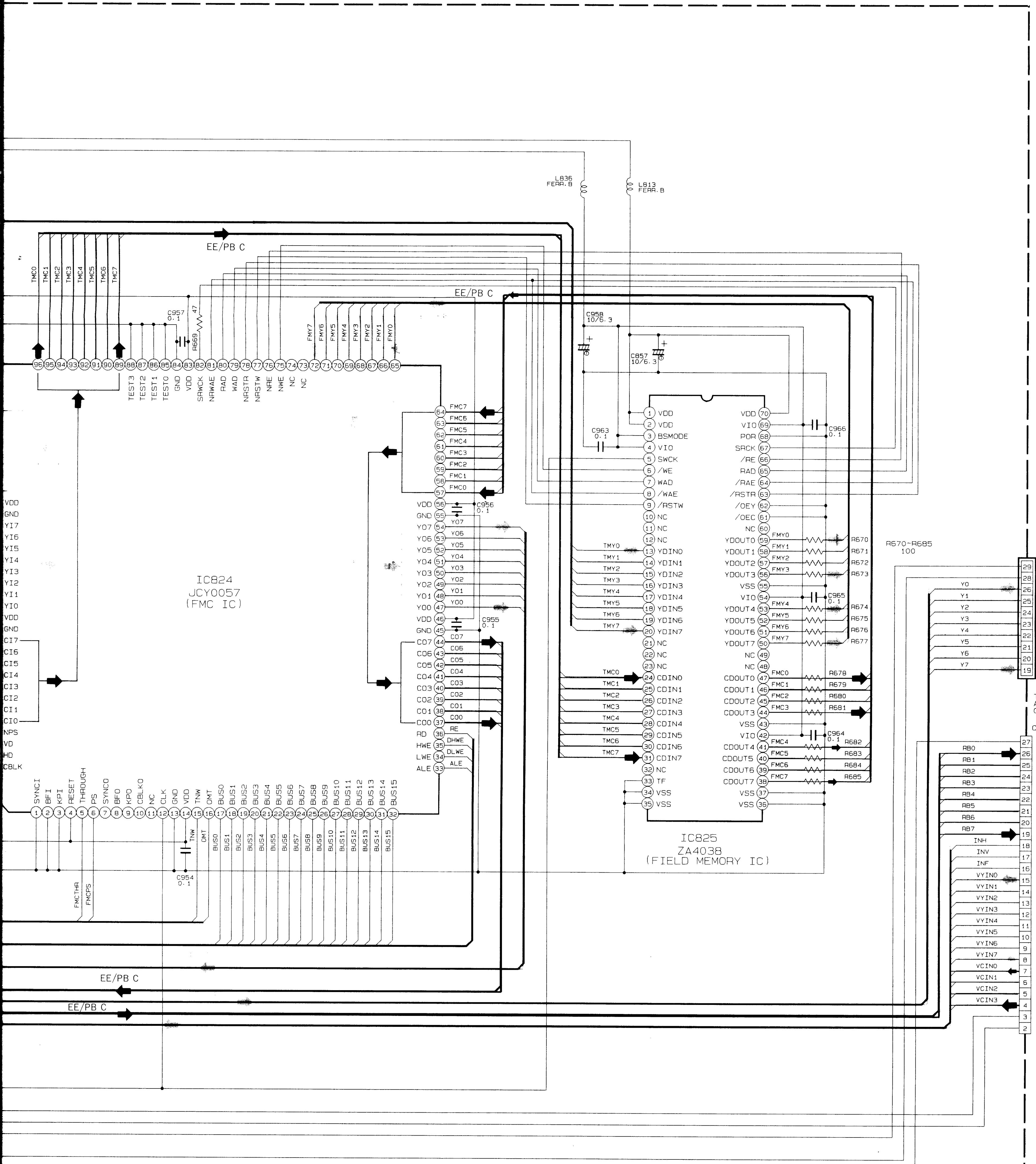
IC823 JCY0043A


87
94
53
DELAY
60
77
79
47
S/P IF
82
50
18TDELAY
86
52
110
111
114
SAMPLING FREQUENCY CONV.
SELECT
Y
103
C
95
120
121
102
128
1
8
T
2
3
SELECT
SELECT
SELECT
SELECT
C
Y
C
Y
42
WIPE GEN.
WIPE + FADER
69
Y
C
76
M I X
HV APT
Y, HNR
61
DELAY
CNR
68
10
15
18
CPU I/F
EFECT SOUND
30
45
46
33

4.21 IDV SCHEMATIC DIAGRAM



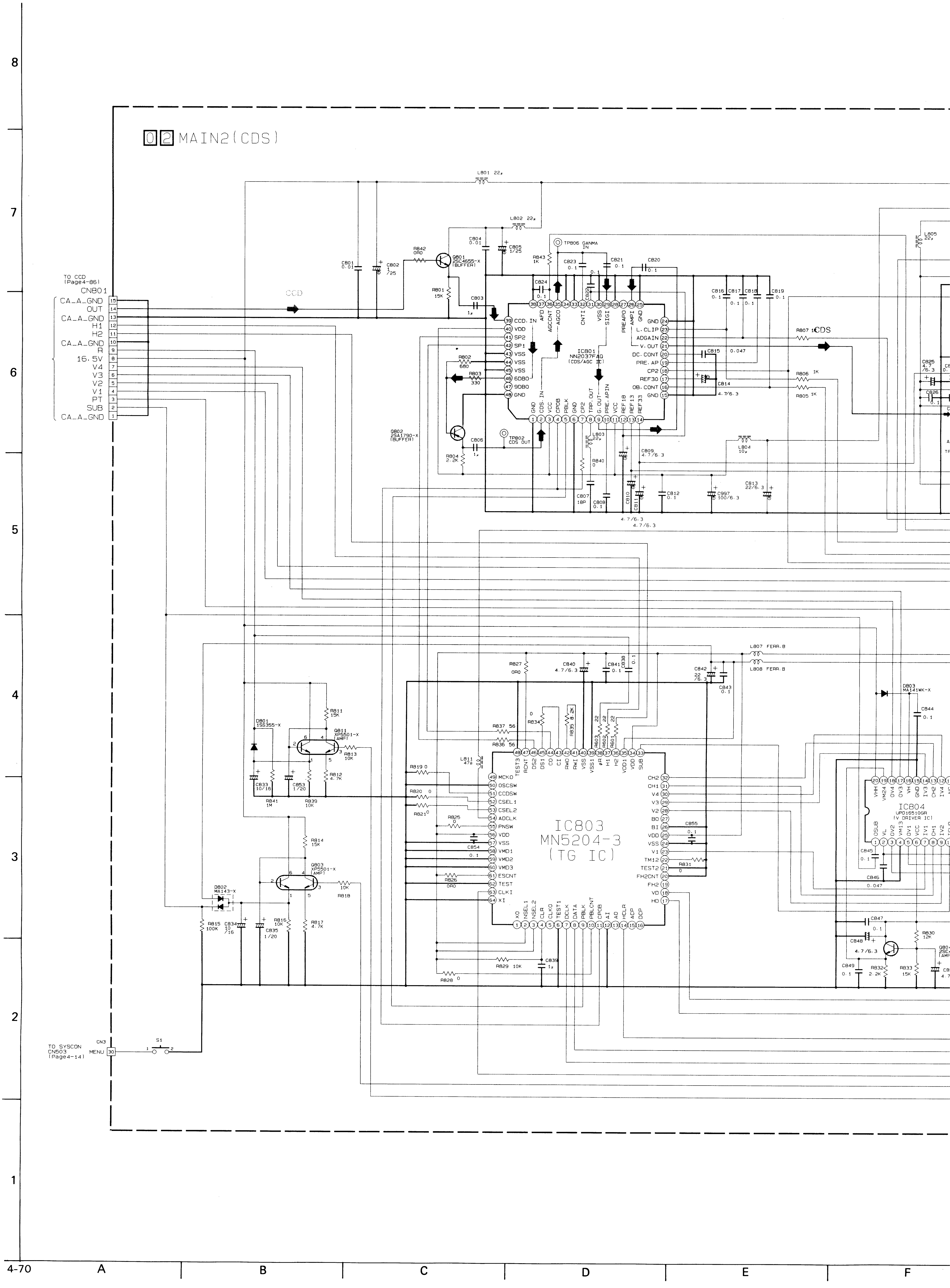
02 MAIN2(IDV)
TO REG (Page4-48)
A_3.5V
D_3V
CD_GND
TO Y/C (Page4-75)
YY07
YY06
YY05
YY04
YY03
YY02
YY01
YY00
CC07
CC06
CC05
CC04
CC03
CC02
CC01
CC00
CLKPRS
HDIDV
VDIDV
HRST
PBHS
PBVS
DBLK
CAMMOD
RE
HWE
LWE
ALE
BUS15
BUS14
BUS13
BUS12
BUS11
BUS10
BUS9
BUS8
BUS7
BUS6
BUS5
BUS4
BUS3
BUS2
BUS1
BUS0
DHWE
DLWE
TO MICAMP (Page4-56)
S_SHUT
SHUT_GND
TO Y/C (Page4-75)
IDV_RST
VDFMC
HDFMC
TNW
OMT
FMCPS
FMCTHR
INH
INF
INV
CLK135
D135
CLK27
FRP
L833 FERR.B
L835 FERR.B
C949 0.1
EE C
EE/PB C
IC823
JCY0043A
(IDV IC)
CIN0 CIN1 CIN2 CIN3 CIN4 CIN5 CIN6 CIN7
YIN0 YIN1 YIN2 YIN3 YIN4 YIN5 YIN6 VSS VDD YIN7
FMY7 FMY6 FMY5 FMY4 FMY3 FMY2 FMY1 FMY0
FMRB7 FMRB6 FMRB5 FMRB4 FMRB3 FMRB2 FMRB1 FMRB0
IFY7 IFY6 IFY5 IFY4 IFY3 IFY2 IFY1 IFY0
IFC7 IFC6 IFC5 IFC4 IFC3 IFC2 IFC1 IFC0
CLKPRS HDIDV VDIDV CLKO1 PBHS HRST_IN PBVS DBLK CAMMOD HWE LWE ALE
ADRF ADRE ADRD VDD VSS ADRC ADRB ADRA ADR9 ADR8 ADR7 ADR6 ADR5 ADR4 ADR3 ADR2 ADR1 ADR0 AVSS AVDD
C943 0.1
L834 22µ
C974 10/6.3
R971 3.9K
C944 0.1
R948 10K
R945 330
C945 10/6.3
C946 1
R947 10K
R946 5.6K
Q809 2SA1790 (BUFFER)
DA0 IREF COMP VREF VSS NC SPAS RAMT PWRRST KEYP OFLT PASS1 PASS2 PASS3 /HWEO/ /LWEO/
VCIN3 VDD VSS VCIN2 VCIN1 VCIN0 VYIN7 VYIN6 VYIN5 VYIN4 VYIN3 VYIN2 VYIN1 VYIN0
RB0 RB1 RB2 RB3 RB4 RB5 RB6 RB7
C947 0.1
MOY7 MOY6 MOY5 MOY4 MOY3 MOY2 MOY1 MOY0
MORB7 MORB6 MORB5 MORB4 MORB3 VSS VDD MORB2 MORB1 MORB0
Y07 Y06 Y05 Y04 Y03 Y02 Y01 Y00
C07 C06 C05 C04 C03 C02 C01 C00
Y7 Y6 Y5 Y4 Y3 Y2 Y1 Y0
C948 0.1
C952 0.1
C953 0.1
TMC0 TMC1 TMC2
TMY7 TMY6 TMY5 TMY4 TMY3 TMY2 TMY1 TMY0
VDD GND YI7 YI6 YI5 YI4 YI3 YI2 YI1 YI0 VDD GND
CI7 CI6 CI5 CI4 CI3 CI2 CI1 CI0
NPS VD HD CBLK
SYNCI BFI KPI
R963 0
1 2 3 4 5 6 7 8
A B C D E F

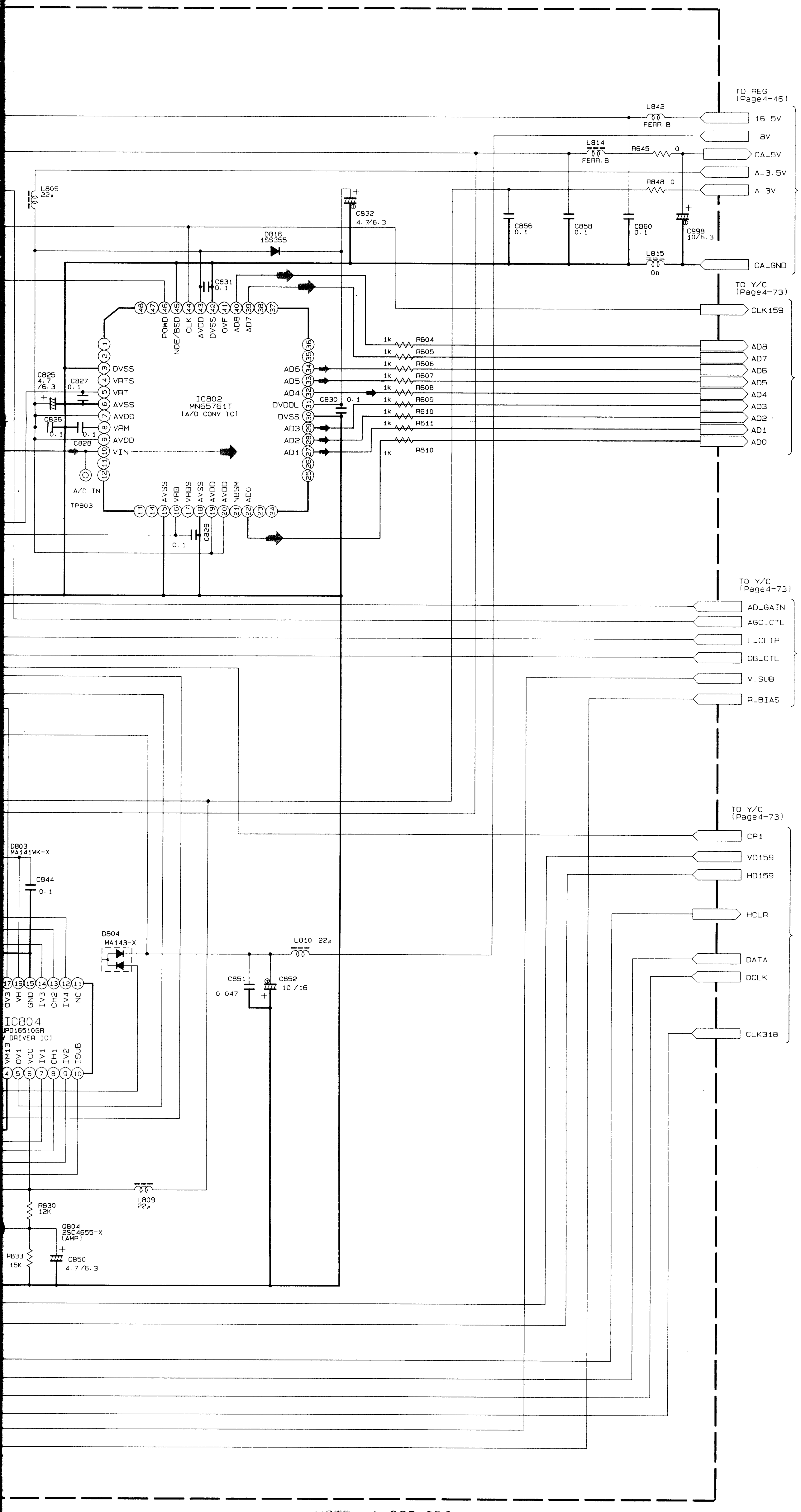

L836
FERR.B
L813
FERR.B
EE/PB C
TMC0
TMC1
TMC2
TMC3
TMC4
TMC5
TMC6
TMC7
C957
0.1
47
R669
FMY7
FMY6
FMY5
FMY4
FMY3
FMY2
FMY1
FMY0
TEST3
TEST2
TEST1
TEST0
GND
VDD
SRWCK
NRWAE
RAD
WAD
NRSTR
NRSTW
NRE
NWE
NC
NC
C958
10/6.3
C857
10/6.3
FMC7
FMC6
FMC5
FMC4
FMC3
FMC2
FMC1
FMC0
VDD
GND
YI7
YI6
YI5
YI4
YI3
YI2
YI1
YI0
VDD
GND
CI7
CI6
CI5
CI4
CI3
CI2
CI1
CI0
NPS
VD
HD
CBLK
IC824
JCY0057
(FMC IC)
VDD
GND
YO7
YO6
YO5
YO4
YO3
YO2
YO1
YO0
VDD
GND
CO7
CO6
CO5
CO4
CO3
CO2
CO1
CO0
RD
HWE
LWE
ALE
C956
0.1
C955
0.1
RE
DHWE
DLWE
ALE
SYNCI
BFI
KPI
RESET
THROUGH
PS
SYNCO
BFO
KPO
CBLKO
NC
CLK
GND
VDD
TNW
OMT
BUS0
BUS1
BUS2
BUS3
BUS4
BUS5
BUS6
BUS7
BUS8
BUS9
BUS10
BUS11
BUS12
BUS13
BUS14
BUS15
C954
0.1
FMCTHR
FMCPS
C963
0.1
VDD
VDD
BSMODE
VIO
SWCK
/WE
WAD
/WAE
/RSTW
NC
NC
NC
YDIN0
YDIN1
YDIN2
YDIN3
YDIN4
YDIN5
YDIN6
YDIN7
NC
NC
NC
CDIN0
CDIN1
CDIN2
CDIN3
CDIN4
CDIN5
CDIN6
CDIN7
NC
TF
VSS
VSS
TMY0
TMY1
TMY2
TMY3
TMY4
TMY5
TMY6
TMY7
VDD
VIO
POR
SRCK
/RE
RAD
/RAE
/RSTR
/OEY
/OEC
NC
YDOUT0
YDOUT1
YDOUT2
YDOUT3
VSS
VIO
YDOUT4
YDOUT5
YDOUT6
YDOUT7
NC
NC
CDOUT0
CDOUT1
CDOUT2
CDOUT3
VSS
VIO
CDOUT4
CDOUT5
CDOUT6
CDOUT7
VSS
VSS
C966
0.1
C965
0.1
C964
0.1
R670
R671
R672
R673
R674
R675
R676
R677
R678
R679
R680
R681
R682
R683
R684
R685
R670-R685
100
IC825
ZA4038
(FIELD MEMORY IC)
TO
AV PROCESS(1)
CN502 (Page4-35)
CN2
CLK1350UT
CLK27
YSI0
YSI1
YSI2
YSI3
YSI4
YSI5
YSI6
YSI7
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7
TO
AV PROCESS(1)
CN503 (Page4-35)
CN3
FRP
CSI0
CSI1
CSI2
CSI3
CSI4
CSI5
CSI6
CSI7
INH
INV
INF
PBY0
PBY1
PBY2
PBY3
PBY4
PBY5
PBY6
PBY7
PBC0
PBC1
PBC2
PBC3
PBHS
PBVS
RB0
RB1
RB2
RB3
RB4
RB5
RB6
RB7
VYIN0
VYIN1
VYIN2
VYIN3
VYIN4
VYIN5
VYIN6
VYIN7
VCIN0
VCIN1
VCIN2
VCIN3

→EE/PB C signal

4.21 IDV SCHEMATIC DIAGRAM

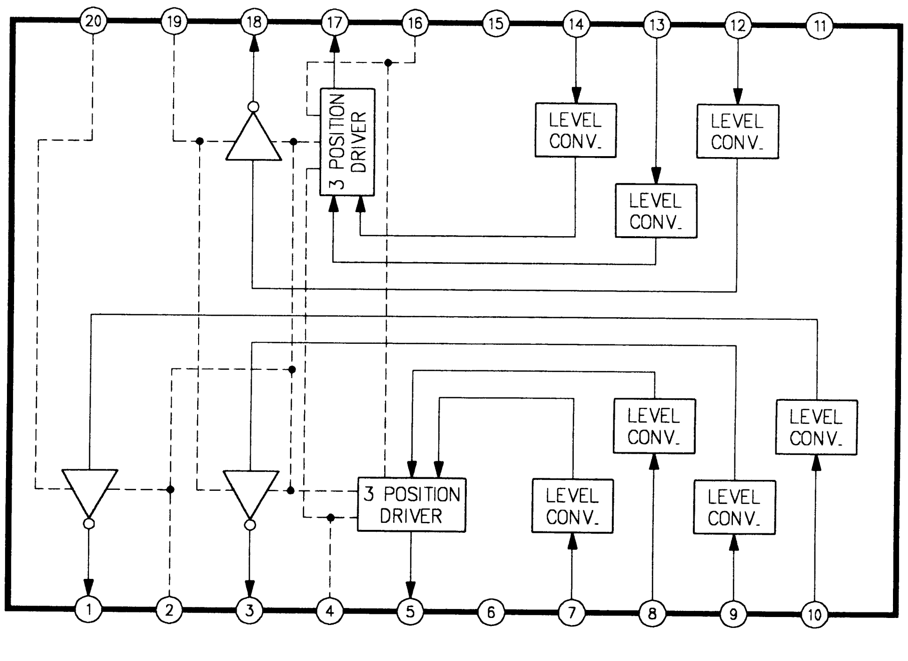
4.22 CDS SCHEMATIC DIAGRAM


02 MAIN2(CDS)
TO CCD (Page4-86)
CN801
CA_A_GND 15
OUT 14
CA_A_GND 13
H1 12
H2 11
CA_A_GND 10
R 9
16.5V 8
V4 7
V3 6
V2 5
V1 4
PT 3
SUB 2
CA_A_GND 1
CCD
L801 22µ
L802 22µ
C801 0.01
C802 1/25
R842 0R0
Q801 2SC4655-X (BUFFER)
C804 0.01
C805 1/25
R801 15K
C803 1µ
TP806 GANMA IN
R843 1K
C823 0.1
C821 0.1
C820 0.1
C824 0.1
C822
IC801 NN2037FAQ (CDS/AGC IC)
CCD. IN
VDD
SP2
SP1
VSS
6DB0
9DB0
GND
AFD
AGCCNT
AGCO
CNTI
VSS
SIGI
PREAPO
AMPI
GND
L. CLIP
ADGAIN
V. OUT
DC. CONT
PRE. AP
CP2
REF30
OB. CONT
CDS. IN
VCC
CPOB
PBLK
CP2
TRP. OUT
G. OUT
PRE. APIN
REF18
REF13
REF33
R802 680
R803 330
Q802 2SA1790-X (BUFFER)
R804 2.2K
C806 1µ
TP802 CDS OUT
L803 22µ
R840 0
C807 18P
C808 0.1
C810 4.7/6.3
C811 4.7/6.3
C809 4.7/6.3
C812 0.1
C997 100/6.3
C813 22/6.3
L804 10µ
C816 0.1
C817 0.1
C818 0.1
C819 0.1
C815 0.047
C814 4.7/6.3
R807 1K
CDS
R806 1K
R805 1K
L805 22µ
C825 4.7/6.3
C826 0.1
TO SYSCON CN503 (Page4-14)
CN3
MENU 30
S1
D801 1SS355-X
R811 15K
Q811 XP5501-X (AMP)
R813 10K
R812 4.7K
C833 10/16
C853 1/20
R841 1M
R839 10K
R814 15K
Q803 XP5501-X (AMP)
R818 10K
D802 MA143-X
R815 100K
C834 10/16
C835 1/20
R816 10K
R817 4.7K
L811 47µ
R819 0
R820 0
R821 0
R825 0
C854 0.1
R826 0R0
R827 0R0
C840 4.7/6.3
C841 0.1
C838 0.1
C842 22/6.3
C843 0.1
L807 FERR.B
L808 FERR.B
R834 0
R835 8.2K
R837 56
R836 56
R603 22
R602 22
R601 22
IC803 MN5204-3 (TG IC)
TEST3
RCNT
DS2
DS1
CO
CI
RWO
RWI
VSS1
øR
H1
H2
VDD1
VDD
SUB
MCKO
OSCSW
CCDSW
CSEL1
CSEL2
ADCLK
PNSW
VDD
VSS
VMD1
VMD2
VMD3
ESCNT
TEST
CLKI
XI
XO
NSEL1
NSEL2
CLR
CLKO
TEST1
DCLK
DATA
PBLK
PBLCNT
CPOB
AI
AO
HCLR
ACP
DCP
CH2
CH1
V4
V3
V2
BO
BI
VDD
VSS
V1
TM12
TEST2
FH2CNT
FH2
VD
HD
C855 0.1
R831 0
R829 10K
C839 1µ
R828 0
D803 MA141WK-X
C844 0.1
IC804 UPD16510GR (V DRIVER IC)
VHH
VM24
OV4
OV3
VH
GND
IV3
CH2
IV4
OSUB
VL
OV2
VM13
OV1
VCC
IV1
CH1
IV2
C845 0.1
C846 0.047
C847 0.1
C848 4.7/6.3
C849 0.1
R830 12K
R832 2.2K
R833 15K
1
2
3
4
5
6
7
8
A
B
C
D
E
F


TO REG
(Page4-46)
L842
FERR.B
16.5V
-8V
L814
FERR.B
R645
0
CA_5V
A_3.5V
R848 0
A_3V
L805
22μ
C832
4.7/6.3
D816
1SS355
C856
0.1
C858
0.1
C860
0.1
C998
10/6.3
L815
0Ω
CA_GND
TO Y/C
(Page4-73)
CLK159
C831
0.1
PDWD
NOE/BSO
CLK
AVDD
DVSS
OVF
AD8
AD7
1k R604
1k R605
1k R606
1k R607
1k R608
1k R609
1k R610
1k R611
1K R810
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0
C825
4.7
/6.3
C827
0.1
C826
0.1
0.1
C828
DVSS
VRTS
VRT
AVSS
AVDD
VRM
AVDD
VIN
IC802
MN65761T
(A/D CONV IC)
AD6
AD5
AD4
DVDDL
DVSS
AD3
AD2
AD1
C830 0.1
A/D IN
TP803
AVSS
VRB
VRBS
AVSS
AVDD
AVDD
NBSM
AD0
0.1
C829
TO Y/C
(Page4-73)
AD_GAIN
AGC_CTL
L_CLIP
OB_CTL
V_SUB
R_BIAS
TO Y/C
(Page4-73)
CP1
VD159
HD159
HCLR
DATA
DCLK
CLK318
D803
MA141WK-X
C844
0.1
D804
MA143-X
L810 22μ
C851
0.047
C852
10/16
OV3
VH
GND
IV3
CH2
IV4
NC
IC804
UPD16510GR
V DRIVER IC
VM13
OV1
VCC
IV1
CH1
IV2
ISUB
L809
22μ
R830
12K
Q804
2SC4655-X
(AMP)
R833
15K
C850
4.7/6.3

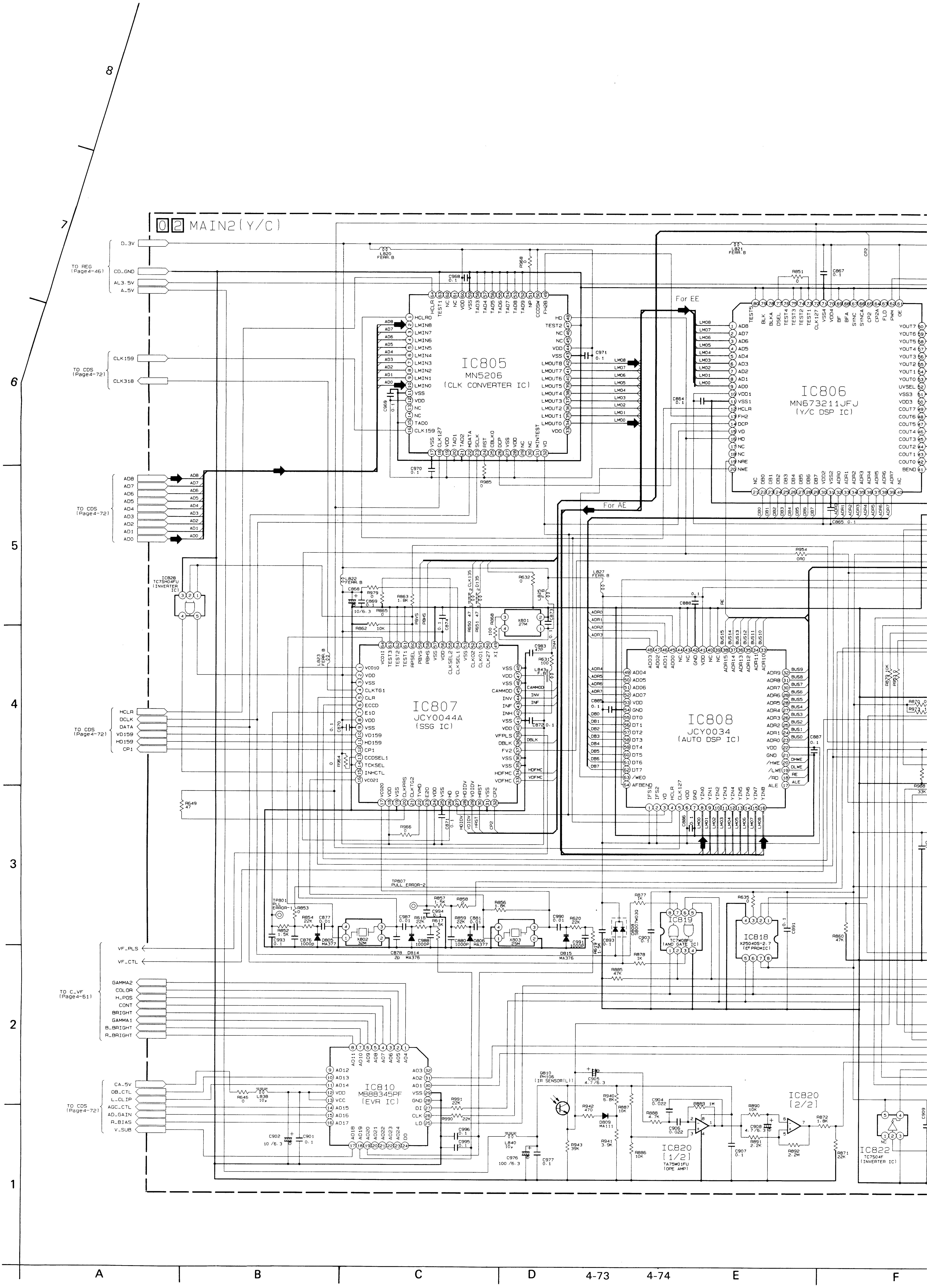
NOTE → CCD, CDS signal

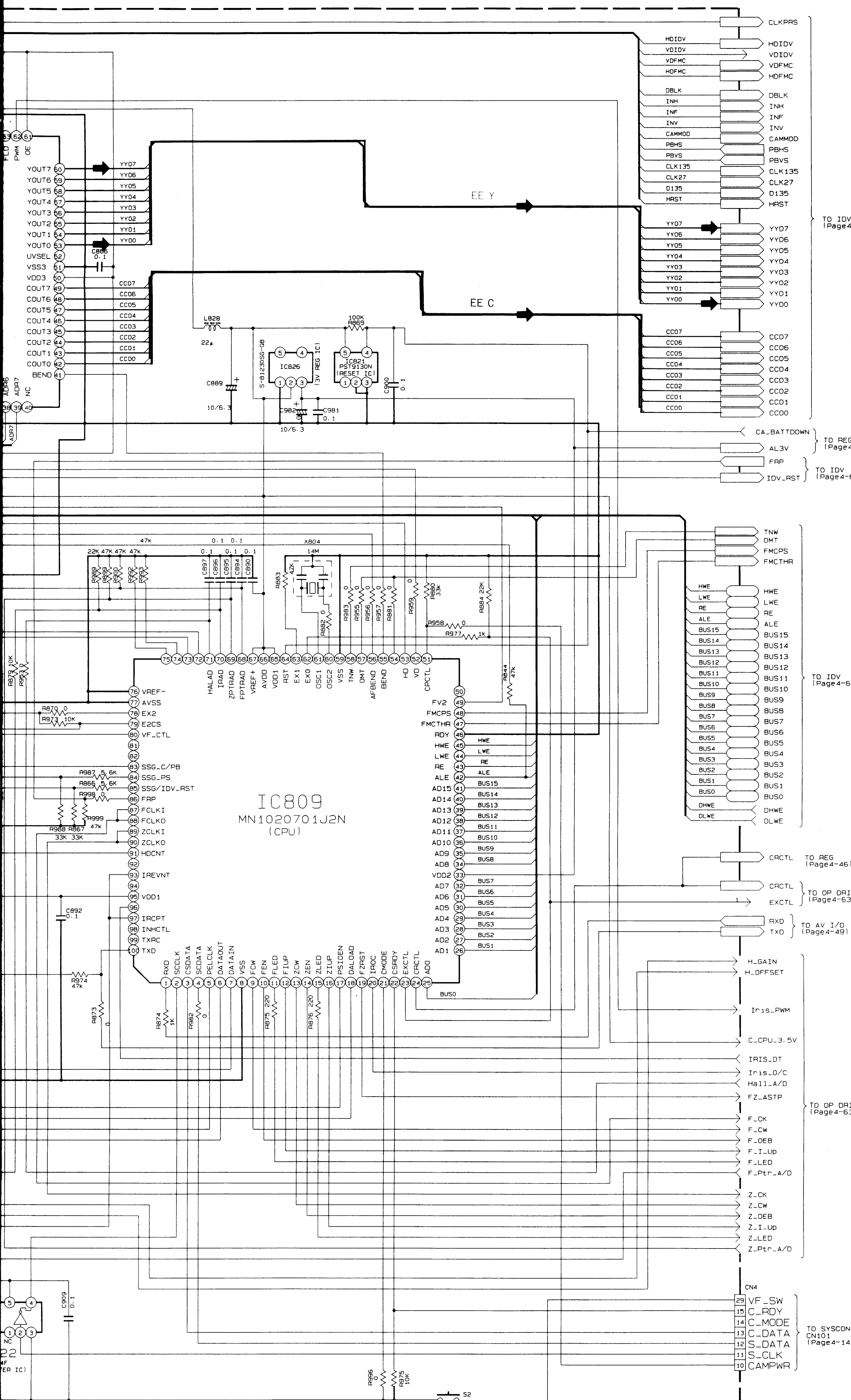
IC804 UPD16510GR


20
19
18
17
16
15
14
13
12
11
3 POSITION DRIVER
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
3 POSITION DRIVER
LEVEL CONV.
LEVEL CONV.
1
2
3
4
5
6
7
8
9
10

4.22 CDS SCHEMATIC DIAGRAM

4.23 Y/C SCHEMATIC DIAGRAM

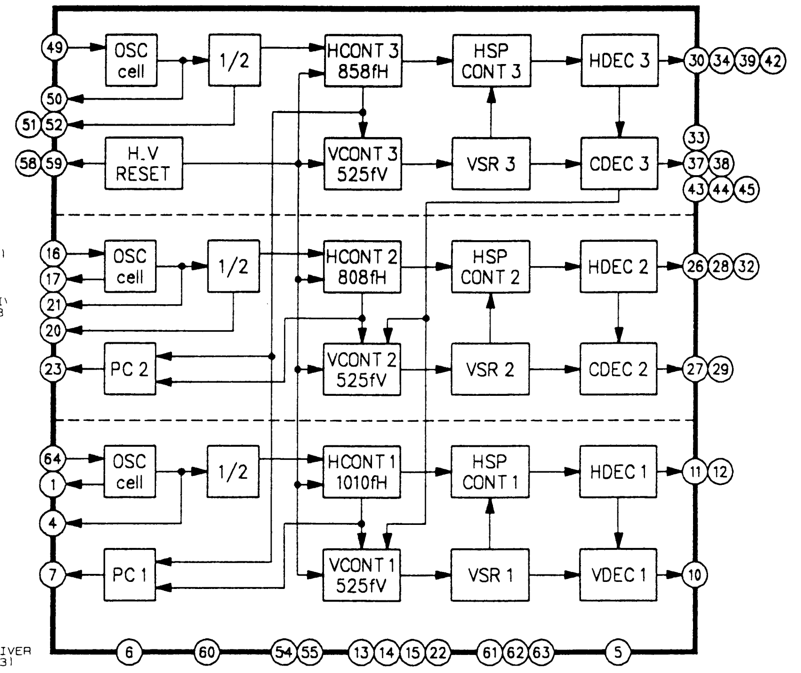

02 MAIN2(Y/C)
TO REG (Page4-46)
D_3V
CD_GND
AL3.5V
A_5V
TO CDS (Page4-72)
CLK159
CLK318
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0
IC828 TC7SH04FU (INVERTER IC)
HCLR
DCLK
DATA
VD159
HD159
CP1
VF_PLS
VF_CTL
TO C_VF (Page4-61)
GAMMA2
COLOR
H_POS
CONT
BRIGHT
GAMMA1
B_BRIGHT
R_BRIGHT
CA_5V
OB_CTL
L_CLIP
AGC_CTL
AD_GAIN
R_BIAS
V_SUB
IC805
MN5206
(CLK CONVERTER IC)
For EE
For AE
IC806
MN673211JFJ
(Y/C DSP IC)
IC807
JCY0044A
(SSG IC)
X801 27M
IC808
JCY0034
(AUTO DSP IC)
TP807 PULL ERROR-2
TP801 PLL ERROR-1
X802 32M
X803 25M
D805 MA377
D806 MA377
D814 MA376
D815 MA376
D808 SB007W03Q
IC819 TC7W08FU (AND GATE IC)
IC818 X25040S-2.7 (E²PROM IC)
IC810
M88345PF
(EVR IC)
Q810 PH106 (IR SENSOR(L))
D809 MA111
IC820 [1/2] TA75W01FU (OPE AMP)
IC820 [2/2]
IC822 TC7S04F (INVERTER IC)
L820 FERR.B
L821 FERR.B
L822 FERR.B
L823 FERR.B
L827 FERR.B
L838 10µ
L840 10µ
8
7
6
5
4
3
2
1
A
B
C
D
E
F


CLKPRS
HDIDV
VDIDV
VDFMC
HDFMC
DBLK
INH
INF
INV
CAMMOD
PBHS
PBVS
CLK135
CLK27
D135
HRST
TO IDV (Page4-67)
YY07
YY06
YY05
YY04
YY03
YY02
YY01
YY00
CC07
CC06
CC05
CC04
CC03
CC02
CC01
CC00
EE Y
EE C
YOUT7
YOUT6
YOUT5
YOUT4
YOUT3
YOUT2
YOUT1
YOUT0
UVSEL
VSS3
VDD3
COUT7
COUT6
COUT5
COUT4
COUT3
COUT2
COUT1
COUT0
BEND
C886 0.1
L828 22μ
C889 10/6.3
IC826 S-81230SG-QB (3V REG IC)
IC821 PST9130N (RESET IC)
100K R869
C982 10/6.3
C981 0.1
C900 0.1
CA_BATTDOWN
AL3V
TO REG (Page4-46)
FRP
IDV_RST
TO IDV (Page4-67)
TNW
DMT
FMCPS
FMCTHR
HWE
LWE
RE
ALE
BUS15
BUS14
BUS13
BUS12
BUS11
BUS10
BUS9
BUS8
BUS7
BUS6
BUS5
BUS4
BUS3
BUS2
BUS1
BUS0
DHWE
DLWE
TO IDV (Page4-67)
X804 14M
IC809 MN1020701J2N (CPU)
CRCTL TO REG (Page4-46)
CRCTL
EXCTL
TO OP DRIVER (Page4-63)
RXD
TXD
TO AV I/O (Page4-49)
H_GAIN
H_OFFSET
Iris_PWM
C_CPU_3.5V
IRIS_DT
Iris_O/C
Hall_A/D
FZ_ASTP
TO OP DRIVER (Page4-63)
F_CK
F_CW
F_DEB
F_I_Up
F_LED
F_Ptr_A/D
Z_CK
Z_CW
Z_DEB
Z_I_Up
Z_LED
Z_Ptr_A/D
CN4
VF_SW
C_RDY
C_MODE
C_DATA
S_DATA
S_CLK
CAMPWR
TO SYSCON CN101 (Page4-14)
S2
C999 0.1

NOTES : ⟶EE,AE, EEY signal

⟶EEC signal

IC807 JCY0044A


OSC cell
1/2
HCONT 3 858fH
HSP CONT 3
HDEC 3
H.V RESET
VCONT 3 525fV
VSR 3
CDEC 3
OSC cell
1/2
HCONT 2 808fH
HSP CONT 2
HDEC 2
PC 2
VCONT 2 525fV
VSR 2
CDEC 2
OSC cell
1/2
HCONT 1 1010fH
HSP CONT 1
HDEC 1
PC 1
VCONT 1 525fV
VSR 1
VDEC 1
49
50
51
52
58
59
16
17
21
20
23
64
1
4
7
30
34
39
42
33
37
38
43
44
45
26
28
32
27
29
11
12
10
6
60
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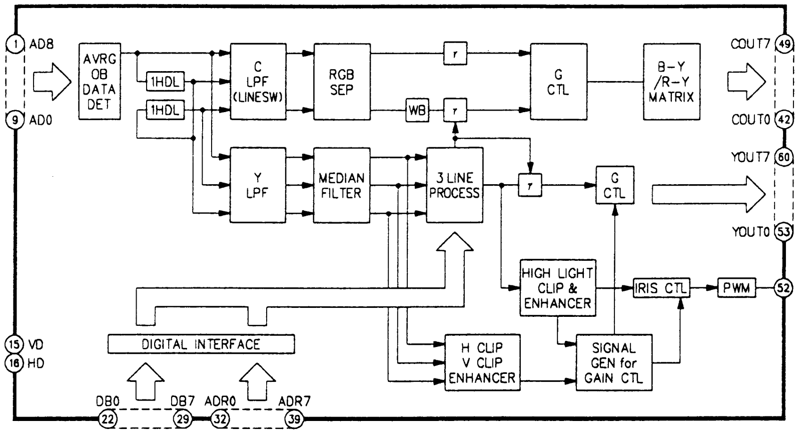
55
13
14
15
22
61
62
63
5

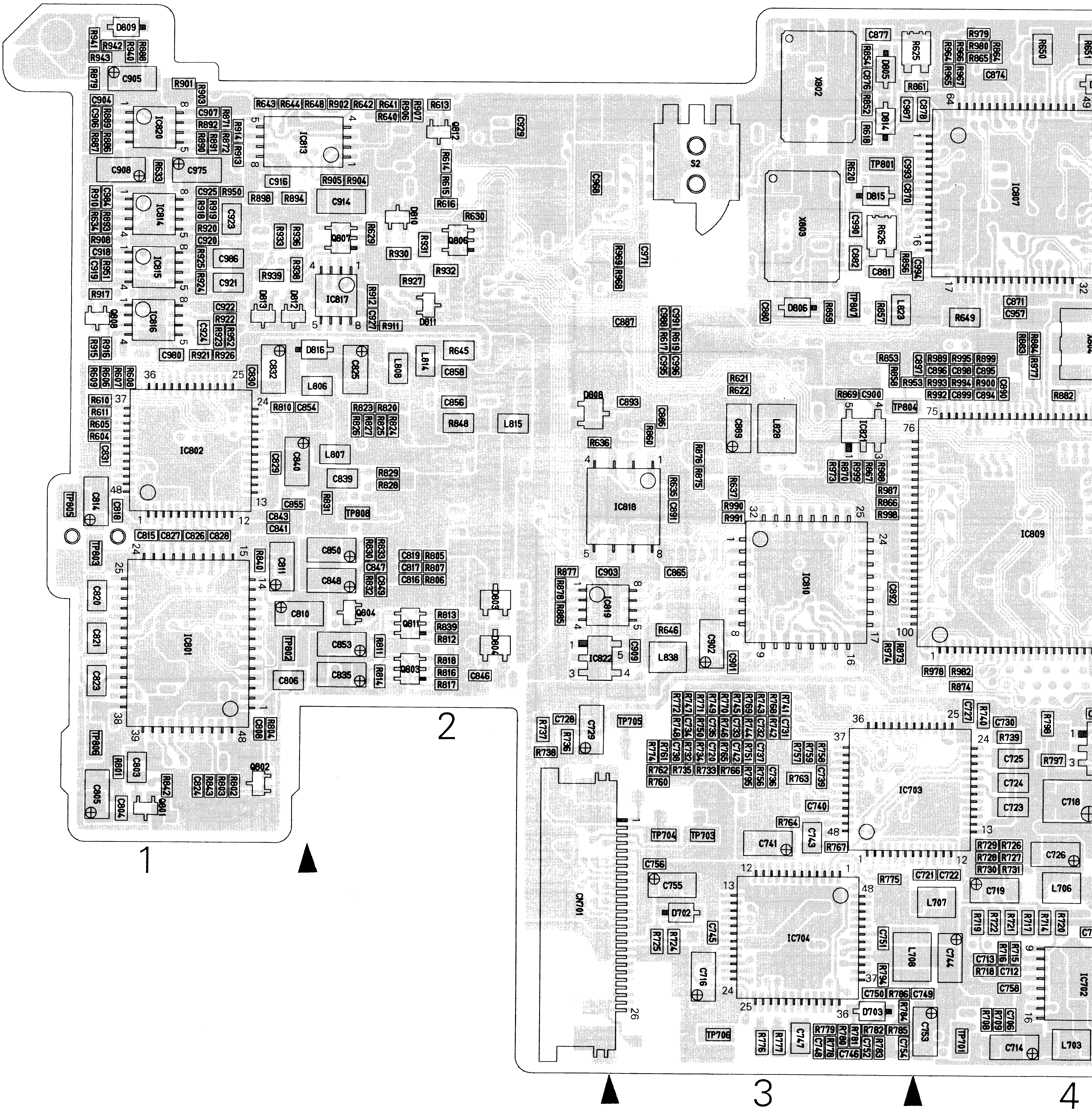
IC806 MN673211JFJ

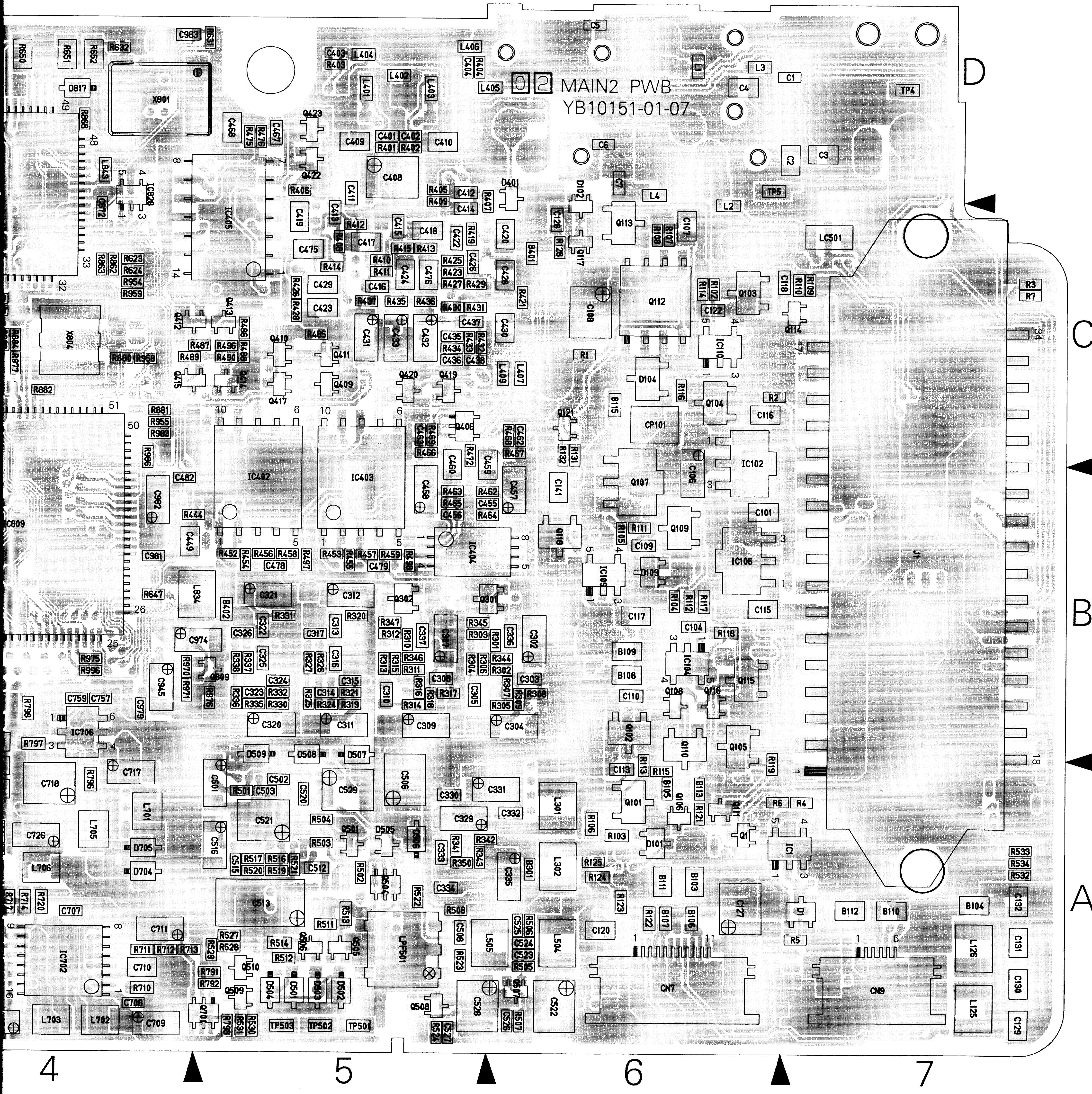

AD8
AD0
AVRG OB DATA DET
1HDL
1HDL
C LPF (LINESW)
RGB SEP
WB
γ
γ
G CTL
B-Y /R-Y MATRIX
COUT7
COUT0
YOUT7
YOUT0
Y LPF
MEDIAN FILTER
3 LINE PROCESS
γ
G CTL
HIGH LIGHT CLIP & ENHANCER
IRIS CTL
PWM
H CLIP V CLIP ENHANCER
SIGNAL GEN for GAIN CTL
DIGITAL INTERFACE
VD
HD
DB0
DB7
ADR0
ADR7
1
9
15
16
22
29
32
39
49
42
60
53
52

4.23 Y/C SCHEMATIC DIAGRAM

4.24 MAIN2 CIRCUIT BOARD

—FOIL S


IC801
IC802
IC807
IC809
IC810
IC813
IC814
IC815
IC816
IC817
IC818
IC819
IC820
IC821
IC822
IC702
IC703
IC704
CN701
X802
X803
S2
1
2
3
4


02 MAIN2 PWB
YB10151-01-07
D
C
B
A
4
5
6
7
J1
CN7
CN9
IC402
IC403
IC404
IC405
IC102
IC104
IC106
IC110
IC702
IC706
X801
X804
LPF501
LC501
Q112
Q107
TP4
TP5

4.24 MAIN2 CIRCUIT BOARD

COMPONENT PARTS LOCATION GUIDE(YB10151-01-07)

REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION		
CAPACITOR				C321	B	C	5B	C442	A	C	5C	C517	A	C	5A	C748	B	C	3A	C844	A	C	2B
C1	B	C	7D	C322	B	C	5B	C443	A	C	5B	C518	A	C	5A	C749	B	C	4A	C845	A	C	2B
C2	B	C	7D	C323	B	C	5B	C444	A	C	5B	C519	A	C	5A	C750	B	C	3A	C846	B	C	2B
C3	B	C	7D	C324	B	C	5B	C445	A	C	5B	C520	B	C	5A	C751	B	C	3A	C847	B	C	2B
C4	B	C	6D	C325	B	C	5B	C446	A	C	5B	C521	B	C	5A	C752	B	C	3A	C848	B	C	2B
C5	B	C	6D	C326	B	C	5B	C447	A	C	5B	C522	B	C	6A	C753	B	C	4A	C849	B	C	2B
C6	B	C	6D	C329	B	C	5A	C448	A	C	5B	C523	B	C	6A	C754	B	C	3A	C850	B	C	2B
C7	B	C	6C	C330	B	C	5A	C449	B	C	4B	C524	B	C	6A	C755	B	C	3A	C851	A	C	2B
C101	B	C	6B	C331	B	C	6A	C450	A	C	5B	C525	B	C	6A	C756	B	C	3A	C852	A	C	2B
C102	A	C	6B	C332	B	C	6A	C451	A	C	5B	C526	B	C	6A	C757	B	C	4B	C853	B	C	2B
C103	A	C	6C	C333	B	C	5A	C452	A	C	5B	C527	B	C	5A	C758	B	C	4A	C854	B	C	2C
C104	B	C	6B	C334	B	C	5A	C453	A	C	6B	C528	B	C	5A	C759	B	C	4B	C855	B	C	1B
C105	A	C	6B	C335	B	C	6A	C454	A	C	5B	C529	B	C	5A	C801	A	C	1B	C856	B	C	2C
C106	B	C	6B	C336	B	C	6B	C455	B	C	6B	C706	B	C	4A	C802	A	C	1B	C857	A	C	4D
C107	B	C	6C	C337	B	C	5B	C456	B	C	5B	C707	B	C	4A	C803	B	C	1A	C858	B	C	2C
C108	B	C	6C	C401	B	C	5D	C457	B	C	6B	C708	B	C	4A	C804	B	C	1A	C859	A	C	4D
C109	B	C	6B	C402	B	C	5D	C458	B	C	5B	C709	B	C	4A	C805	B	C	1A	C860	A	C	2B
C110	B	C	6B	C403	B	C	5D	C459	B	C	6B	C710	B	C	4A	C806	B	C	1B	C861	A	C	3D
C111	A	C	6C	C404	B	C	5D	C460	B	C	5B	C711	B	C	4A	C807	A	C	1B	C862	A	C	3B
C112	A	C	6C	C405	A	C	5D	C461	A	C	5C	C712	B	C	4A	C808	B	C	1B	C863	A	C	3B
C113	B	C	6A	C406	A	C	5D	C462	B	C	6C	C713	B	C	4A	C809	A	C	1B	C864	A	C	2B
C115	B	C	6B	C408	B	C	5C	C463	B	C	5C	C714	B	C	4A	C810	B	C	1B	C865	B	C	3B
C116	B	C	6C	C409	B	C	5D	C464	A	C	5C	C715	A	C	3B	C811	B	C	1B	C866	A	C	3B
C117	B	C	6B	C410	B	C	5D	C465	A	C	5C	C716	B	C	3A	C812	A	C	1B	C867	A	C	3B
C118	B	C	7C	C411	B	C	5C	C466	A	C	5C	C717	B	C	4A	C813	A	C	1B	C868	A	C	4C
C119	A	C	6A	C412	B	C	5C	C467	B	C	5D	C718	B	C	4A	C814	B	C	1B	C869	A	C	4C
C120	B	C	6A	C413	B	C	5C	C468	B	C	5D	C719	B	C	4A	C815	B	C	1B	C870	B	C	3C
C121	A	C	6B	C414	B	C	5C	C469	A	C	5D	C720	B	C	3B	C816	B	C	2B	C871	B	C	4C
C122	B	C	6C	C415	B	C	5C	C470	A	C	5D	C721	B	C	4A	C817	B	C	2B	C872	B	C	4C
C123	A	C	6B	C416	B	C	5C	C471	A	C	5C	C722	B	C	4A	C818	B	C	1B	C873	A	C	4D
C124	A	C	7B	C417	B	C	5C	C472	A	C	5C	C723	B	C	4A	C819	B	C	2B	C874	B	C	4D
C125	A	C	6A	C418	B	C	5C	C473	A	C	5C	C724	B	C	4A	C820	B	C	1B	C876	B	C	3D
C126	B	C	6C	C419	B	C	5C	C474	A	C	4B	C725	B	C	4B	C821	B	C	1B	C877	B	C	3D
C127	B	C	6A	C420	B	C	6C	C475	B	C	5C	C726	B	C	4A	C822	A	C	1B	C878	B	C	4D
C129	B	C	7A	C421	A	C	5C	C476	B	C	5C	C727	B	C	4B	C823	B	C	1B	C880	B	C	3C
C130	B	C	7A	C422	B	C	5C	C477	A	C	4C	C728	B	C	2B	C824	B	C	1A	C881	B	C	3C
C131	B	C	7A	C423	B	C	5C	C478	B	C	5B	C729	B	C	2B	C825	B	C	2C	C882	B	C	3C
C132	B	C	7A	C424	B	C	5C	C479	B	C	5B	C730	B	C	4B	C826	B	C	1B	C883	A	C	3C
C141	B	C	6B	C425	A	C	5C	C480	A	C	5D	C731	B	C	3B	C827	B	C	1B	C884	A	C	3C
C302	B	C	6B	C426	B	C	5C	C481	A	C	6B	C732	B	C	3B	C828	B	C	1B	C885	B	C	3C
C303	B	C	6B	C427	A	C	5C	C482	B	C	4B	C733	B	C	3B	C829	B	C	1B	C886	A	C	2C
C304	B	C	6B	C428	B	C	6C	C483	A	C	5B	C734	B	C	3B	C830	B	C	1C	C887	B	C	3C
C305	B	C	5B	C429	B	C	5C	C501	B	C	5A	C735	B	C	3B	C831	B	C	1C	C888	A	C	3C
C307	B	C	5B	C430	B	C	6C	C502	B	C	5A	C736	B	C	3A	C832	B	C	1C	C889	B	C	3C
C308	B	C	5B	C431	B	C	5C	C503	B	C	5A	C737	B	C	3B	C833	A	C	2B	C890	B	C	4C
C309	B	C	5B	C432	B	C	5C	C504	A	C	5A	C738	B	C	3B	C834	A	C	2B	C891	B	C	3B
C310	B	C	5B	C433	B	C	5C	C505	A	C	5B	C739	B	C	3A	C835	B	C	2B	C892	B	C	3B
C311	B	C	5B	C434	A	C	5C	C506	B	C	5A	C740	B	C	3A	C836	A	C	1B	C893	B	C	3C
C312	B	C	5B	C435	B	C	5C	C507	A	C	5A	C741	B	C	3A	C837	A	C	1B	C894	B	C	4C
C313	B	C	5B	C436	B	C	5C	C508	B	C	5A	C742	B	C	3B	C838	A	C	1B	C895	B	C	4C
C314	B	C	5B	C437	B	C	5C	C512	B	C	5A	C743	B	C	3A	C839	B	C	2B	C896	B	C	4C
C315	B	C	5B	C438	B	C	5C	C513	B	C	5A	C744	B	C	4A	C840	B	C	1C	C897	B	C	4C
C316	B	C	5B	C439	A	C	5B	C514	A	C	5A	C745	B	C	3A	C841	B	C	1B	C898	B	C	4C
C317	B	C	5B	C440	A	C	5B	C515	B	C	5A	C746	B	C	3A	C842	A	C	2C	C899	B	C	4C
C320	B	C	5B	C441	A	C	5C	C516	B	C	5A	C747	B	C	3A	C843	B	C	1B	C900	B	C	3C

REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION		
C901	B	C	3B	C958	A	C	4D	D109	B	C	6B	IC403	B	C	5B	L405	B	C	6D	Q104	B	C	6C
C902	B	C	3B	C959	A	C	4D	D301	A	C	6B	IC404	B	C	5B	L406	B	C	5D	Q105	B	C	6B
C903	B	C	2B	C963	A	C	3D	D401	B	C	6C	IC405	B	C	5C	L407	B	C	6C	Q106	B	C	6A
C904	B	C	1D	C964	A	C	4C	D403	A	C	6B	IC501	A	C	5A	L409	B	C	6C	Q107	B	C	6B
C905	B	C	1D	C965	A	C	4C	D404	A	C	5B	IC702	B	C	4A	L501	A	C	5A	Q108	B	C	6B
C906	B	C	1D	C966	A	C	3C	D405	A	C	5D	IC703	B	C	3A	L502	A	C	5A	Q109	B	C	6B
C907	B	C	1D	C968	B	C	2C	D406	A	C	5C	IC704	B	C	3A	L503	A	C	5A	Q110	B	C	6B
C908	B	C	1C	C969	A	C	3C	D407	A	C	4C	IC706	B	C	4B	L504	B	C	6A	Q111	B	C	6A
C909	B	C	3B	C970	A	C	3D	D501	B	C	5A	IC801	B	C	1B	L505	B	C	6A	Q112	B	C	6C
C910	A	C	1D	C971	B	C	3C	D502	B	C	5A	IC802	B	C	1C	L701	B	C	4A	Q113	B	C	6C
C911	A	C	1D	C972	A	C	3C	D503	B	C	5A	IC803	A	C	1B	L702	B	C	4A	Q114	B	C	7C
C912	A	C	1D	C974	B	C	5B	D504	B	C	5A	IC804	A	C	2B	L703	B	C	4A	Q115	B	C	6B
C913	A	C	1D	C975	B	C	1C	D505	B	C	5A	IC805	A	C	3C	L704	A	C	3A	Q116	B	C	6B
C914	B	C	2C	C976	A	C	1D	D506	B	C	5A	IC806	A	C	3B	L705	B	C	4A	Q117	B	C	6C
C916	B	C	1C	C977	A	C	1D	D507	B	C	5B	IC807	B	C	4C	L706	B	C	4A	Q118	B	C	6B
C918	B	C	1C	C979	B	C	4B	D508	B	C	5B	IC808	A	C	3C	L707	B	C	4A	Q121	B	C	6C
C919	B	C	1C	C980	B	C	1C	D509	B	C	5B	IC809	B	C	4B	L708	B	C	4A	Q122	A	C	6B
C920	B	C	1C	C981	B	C	4B	D702	B	C	3A	IC810	B	C	3B	L801	A	C	1B	Q123	A	C	6B
C921	B	C	1C	C982	B	C	4B	D703	B	C	3A	IC811	A	C	2C	L802	A	C	1B	Q124	A	C	6C
C922	B	C	1C	C983	B	C	4D	D704	B	C	4A	IC812	A	C	1C	L803	A	C	1B	Q301	B	C	6B
C923	B	C	1C	C984	B	C	1C	D705	B	C	4A	IC813	B	C	1D	L804	A	C	1B	Q302	B	C	5B
C924	B	C	1C	C985	A	C	1C	D801	A	C	1B	IC814	B	C	1C	L805	A	C	2C	Q403	A	C	4B
C925	B	C	1C	C986	B	C	1C	D802	A	C	1B	IC815	B	C	1C	L806	B	C	2C	Q404	A	C	5B
C926	A	C	2C	C987	B	C	3D	D803	B	C	2B	IC816	B	C	1C	L807	B	C	2C	Q405	A	C	5B
C927	B	C	2C	C988	B	C	3C	D804	B	C	2B	IC817	B	C	2C	L808	B	C	2C	Q406	B	C	5C
C928	A	C	2D	C990	B	C	3C	D805	B	C	3D	IC818	B	C	3B	L809	A	C	2C	Q407	A	C	5C
C929	B	C	2D	C991	B	C	3C	D806	B	C	3C	IC819	B	C	2B	L810	A	C	2C	Q409	B	C	5C
C930	A	C	2D	C993	B	C	3C	D807	A	C	2D	IC820	B	C	1D	L811	A	C	1C	Q410	B	C	5C
C931	A	C	2C	C994	B	C	4C	D808	B	C	2C	IC821	B	C	3C	L813	A	C	4D	Q411	B	C	5C
C932	A	C	2C	C995	B	C	3C	D809	B	C	1D	IC822	B	C	2B	L814	B	C	2C	Q412	B	C	5C
C933	A	C	2C	C996	B	C	3C	D810	B	C	2C	IC823	A	C	4A	L815	B	C	2C	Q413	B	C	5C
C934	A	C	2C	C997	A	C	2C	D811	B	C	2C	IC824	A	C	4C	L820	A	C	3C	Q414	B	C	5C
C935	A	C	2C	C998	A	C	2B	D812	B	C	1C	IC825	A	C	4D	L821	A	C	3B	Q415	B	C	5C
C936	A	C	2C	C999	A	C	1D	D813	B	C	1C	IC826	A	C	4B	L822	A	C	4C	Q416	A	C	5C
C937	A	C	1C	CONNECTOR				D814	B	C	3D	IC828	B	C	4C	L823	B	C	3C	Q417	B	C	5C
C938	A	C	1C					D815	B	C	3C	COIL				L825	A	C	4D	Q418	A	C	5C
C939	A	C	2C	CN1	A	C	6A	D816	B	C	2C					L827	A	C	3C	Q419	B	C	5C
C940	A	C	1C	CN2	A	C	6A	D817	B	C	4D	L1	B	C	6D	L828	B	C	3C	Q420	B	C	5C
C941	A	C	3B	CN3	A	C	5A	IC				L2	B	C	6C	L830	A	C	2D	Q421	A	C	5D
C942	A	C	3B	CN4	A	C	4A					L3	B	C	6D	L831	A	C	1D	Q422	B	C	5D
C943	A	C	4B	CN5	A	C	7B	IC1	B	C	7A	L4	B	C	6C	L832	A	C	2C	Q423	B	C	5D
C944	A	C	4B	CN6	A	C	6B	IC101	A	C	6A	L5	A	C	7C	L833	A	C	3B	Q424	A	C	5C
C945	B	C	4B	CN7	B	C	6A	IC102	B	C	6C	L6	A	C	7C	L834	B	C	5B	Q425	A	C	5C
C946	A	C	5B	CN9	B	C	7A	IC103	A	C	7B	L121	A	C	6B	L835	A	C	4C	Q426	A	C	5C
C947	A	C	5A	CN401	A	C	5D	IC104	B	C	6B	L122	A	C	6B	L836	A	C	4D	Q501	B	C	5A
C948	A	C	4A	CN701	B	C	3A	IC106	B	C	6B	L123	A	C	6A	L838	B	C	3B	Q504	B	C	5A
C949	A	C	3B	CN801	A	C	1B	IC109	B	C	6B	L124	A	C	6A	L840	A	C	1D	Q505	B	C	5A
C950	A	C	4C	CN802	A	C	1C	IC110	B	C	6C	L125	B	C	7A	L842	A	C	2B	Q506	B	C	5A
C951	A	C	4C	DIODE				IC301	A	C	6A	L126	B	C	7A	L843	B	C	4C	Q507	B	C	6A
C952	A	C	4C					IC302	A	C	6B	L301	B	C	6A	TRANSISTOR				Q508	B	C	5A
C953	A	C	4C	D1	B	C	7A	IC303	A	C	5B	L302	B	C	6A					Q509	B	C	5A
C954	A	C	4B	D101	B	C	6A	IC304	A	C	5B	L401	B	C	5D	Q1	B	C	6A	Q510	B	C	5A
C955	A	C	3C	D102	B	C	6C	IC305	A	C	5B	L402	B	C	5D	Q101	B	C	6A	Q701	B	C	5A
C956	A	C	3C	D103	A	C	6C	IC401	A	C	5C	L403	B	C	5D	Q102	B	C	6B	Q702	A	C	3A
C957	B	C	4C	D104	B	C	6C	IC402	B	C	5B	L404	B	C	5D	Q103	B	C	6C	Q801	B	C	1A

REF.No.	LOCATION		
Q802	B	C	1A
Q803	B	C	2B
Q804	B	C	2B
Q805	A	C	1C
Q806	B	C	2C
Q807	B	C	2C
Q808	B	C	1C
Q809	B	C	5B
Q810	A	D	1D
Q811	B	C	2B
Q812	B	C	2D
RESISTOR			
R1	B	C	6C
R2	B	C	6C
R3	B	C	7C
R4	B	C	7A
R5	B	C	7A
R6	B	C	6A
R7	B	C	7C
R101	A	C	6A
R102	B	C	6C
R103	B	C	6A
R104	B	C	6B
R105	B	C	6B
R106	B	C	6A
R107	B	C	6C
R108	B	C	6C
R109	B	C	7C
R110	B	C	7C
R111	B	C	6B
R112	B	C	6B
R113	B	C	6A
R114	B	C	6C
R115	B	C	6A
R116	B	C	6C
R117	B	C	6B
R118	B	C	6B
R119	B	C	6A
R120	A	C	7B
R121	B	C	6A
R122	B	C	6A
R123	B	C	6A
R124	B	C	6A
R125	B	C	6A
R128	B	C	6C
R131	B	C	6C
R132	B	C	6C
R301	B	C	6B
R302	B	C	6B
R303	B	C	5B
R304	B	C	5B
R305	B	C	6B
R306	B	C	5B
R307	B	C	6B

REF.No.	LOCATION		
R308	B	C	6B
R309	B	C	6B
R310	B	C	5B
R311	B	C	5B
R312	B	C	5B
R313	B	C	5B
R314	B	C	5B
R315	B	C	5B
R316	B	C	5B
R317	B	C	5B
R318	B	C	5B
R319	B	C	5B
R320	B	C	5B
R321	B	C	5B
R322	A	C	5B
R323	A	C	5B
R324	B	C	5B
R325	B	C	5B
R326	B	C	5B
R327	B	C	5B
R330	B	C	5B
R331	B	C	5B
R332	B	C	5B
R333	A	C	5B
R334	A	C	5B
R335	B	C	5B
R336	B	C	5B
R337	B	C	5B
R338	B	C	5B
R341	B	C	5A
R342	B	C	6A
R343	B	C	5A
R344	B	C	6B
R345	B	C	5B
R346	B	C	5B
R347	B	C	5B
R348	A	C	6B
R349	A	C	6B
R350	B	C	5A
R351	A	C	6A
R352	A	C	6A
R353	A	C	6A
R401	B	C	5D
R402	B	C	5D
R403	B	C	5D
R404	B	C	5D
R405	B	C	5C
R406	B	C	5C
R407	B	C	5C
R408	B	C	5C
R409	B	C	5C
R410	B	C	5C
R411	B	C	5C
R412	B	C	5C
R413	B	C	5C

REF.No.	LOCATION		
R414	B	C	5C
R415	B	C	5C
R418	A	C	5C
R419	B	C	5C
R420	A	C	5C
R421	B	C	6C
R422	A	C	5C
R423	B	C	5C
R424	A	C	5C
R425	B	C	5C
R426	B	C	5C
R427	B	C	5C
R428	B	C	5C
R429	B	C	5C
R430	B	C	5C
R431	B	C	5C
R432	B	C	5C
R433	B	C	5C
R434	B	C	5C
R435	B	C	5C
R436	B	C	5C
R437	B	C	5C
R438	A	C	5C
R440	A	C	5C
R442	A	C	5C
R444	B	C	5B
R445	A	C	4B
R446	A	C	5C
R447	A	C	5C
R448	A	C	5C
R449	A	C	5C
R450	A	C	5B
R451	A	C	5B
R452	B	C	5B
R453	B	C	5B
R454	B	C	5B
R455	B	C	5B
R456	B	C	5B
R457	B	C	5B
R458	B	C	5B
R459	B	C	5B
R460	A	C	5B
R461	A	C	5B
R462	B	C	6B
R463	B	C	5B
R464	B	C	6B
R465	B	C	5B
R466	B	C	5C
R467	B	C	6C
R468	B	C	6C
R469	B	C	5C
R470	A	C	6B
R471	A	C	6C
R472	B	C	5C
R473	A	C	5C

REF.No.	LOCATION		
R474	A	C	5C
R475	B	C	5D
R476	B	C	5D
R477	A	C	5D
R478	A	C	5D
R479	A	C	4C
R480	A	C	5C
R483	A	C	4C
R485	B	C	5C
R486	B	C	5C
R487	B	C	5C
R488	B	C	5C
R489	B	C	4C
R490	B	C	5C
R491	A	C	5C
R492	A	C	5C
R493	A	C	5C
R494	A	C	5C
R495	A	C	5C
R496	B	C	5C
R497	B	C	5B
R498	B	C	5B
R499	A	C	6C
R501	B	C	5A
R502	B	C	5A
R503	B	C	5A
R504	B	C	5A
R505	B	C	6A
R506	B	C	6A
R507	B	C	6A
R508	B	C	5A
R511	B	C	5A
R512	B	C	5A
R513	B	C	5A
R514	B	C	5A
R515	A	C	7C
R516	B	C	5A
R517	B	C	5A
R518	A	C	7C
R519	B	C	5A
R520	B	C	5A
R521	B	C	5A
R522	B	C	5A
R523	B	C	5A
R524	B	C	5A
R527	B	C	5A
R528	B	C	5A
R529	B	C	5A
R530	B	C	5A
R531	B	C	5A
R532	B	C	7A
R533	B	C	7A
R534	B	C	7A
R601	A	C	1B
R602	A	C	1B

REF.No.	LOCATION		
R603	A	C	1B
R604	B	C	1C
R605	B	C	1C
R606	B	C	1C
R607	B	C	1C
R608	B	C	1C
R609	B	C	1C
R610	B	C	1C
R611	B	C	1C
R612	A	C	2C
R613	B	C	2D
R614	B	C	2C
R615	B	C	2C
R616	B	C	2C
R617	B	C	3C
R618	B	C	3D
R619	B	C	3C
R620	B	C	3C
R621	B	C	3C
R622	B	C	3C
R623	B	C	4C
R624	B	C	4C
R625	B	C	4D
R626	B	C	3C
R627	A	C	2C
R628	A	C	2C
R629	B	C	2C
R630	B	C	2C
R631	B	C	5D
R632	B	C	4D
R633	B	C	1C
R634	B	C	1C
R635	B	C	3B
R636	B	C	2C
R637	B	C	3B
R638	A	C	3B
R639	A	C	3B
R640	B	C	2D
R641	B	C	2D
R642	B	C	2D
R643	B	C	1D
R644	B	C	1D
R645	B	C	2C
R646	B	C	3B
R647	B	C	4B
R648	B	C	2D
R649	B	C	4C
R650	B	C	4D
R651	B	C	4D
R652	B	C	4D
R669	A	C	3C
R670	A	C	3C
R671	A	C	3C
R672	A	C	3C
R673	A	C	3C

REF.No.	LOCATION		
R674	A	C	3C
R675	A	C	4C
R676	A	C	4C
R677	A	C	4C
R678	A	C	4C
R679	A	C	4C
R680	A	C	4C
R681	A	C	4C
R682	A	C	4C
R683	A	C	4C
R684	A	C	4C
R685	A	C	4C
R708	B	C	4A
R709	B	C	4A
R710	B	C	4A
R711	B	C	4A
R712	B	C	4A
R713	B	C	4A
R714	B	C	4A
R715	B	C	4A
R716	B	C	4A
R717	B	C	4A
R718	B	C	4A
R719	B	C	4A
R720	B	C	4A
R721	B	C	4A
R722	B	C	4A
R723	A	C	3A
R724	B	C	3A
R725	B	C	3A
R726	B	C	4A
R727	B	C	4A
R728	B	C	4A
R729	B	C	4A
R730	B	C	4A
R731	B	C	4A
R732	B	C	3B
R733	B	C	3A
R734	B	C	3B
R735	B	C	3A
R736	B	C	2B
R737	B	C	2B
R738	B	C	2B
R739	B	C	4B
R740	B	C	4B
R741	B	C	3B
R742	B	C	3B
R743	B	C	3B
R744	B	C	3B
R745	B	C	3B
R746	B	C	3B
R747	B	C	3B
R748	B	C	3B
R749	B	C	3B
R750	B	C	3B

REF.No.	LOCATION		
R751	B	C	3B
R756	B	C	3A
R757	B	C	3B
R758	B	C	3B
R759	B	C	3B
R760	B	C	3A
R761	B	C	3B
R762	B	C	3A
R763	B	C	3A
R764	B	C	3A
R765	B	C	3B
R766	B	C	3A
R767	B	C	3A
R768	B	C	3B
R769	B	C	3B
R770	B	C	3B
R771	B	C	3B
R772	B	C	3B
R774	B	C	3B
R775	B	C	3A
R776	B	C	3A
R777	B	C	3A
R778	B	C	3A
R779	B	C	3A
R780	B	C	3A
R781	B	C	3A
R782	B	C	3A
R783	B	C	3A
R784	B	C	3A
R785	B	C	3A
R786	B	C	3A
R791	B	C	5A
R792	B	C	5A
R793	B	C	5A
R794	B	C	3A
R795	B	C	3A
R796	B	C	4A
R797	B	C	4B
R798	B	C	4B
R801	B	C	1A
R802	B	C	1A
R803	B	C	1A
R804	B	C	1B
R805	B	C	2B
R806	B	C	2B
R807	B	C	2B
R810	B	C	1C
R811	B	C	2B
R812	B	C	2B
R813	B	C	2B
R814	B	C	2B
R815	A	C	1B
R816	B	C	2B
R817	B	C	2B
R818	B	C	2B

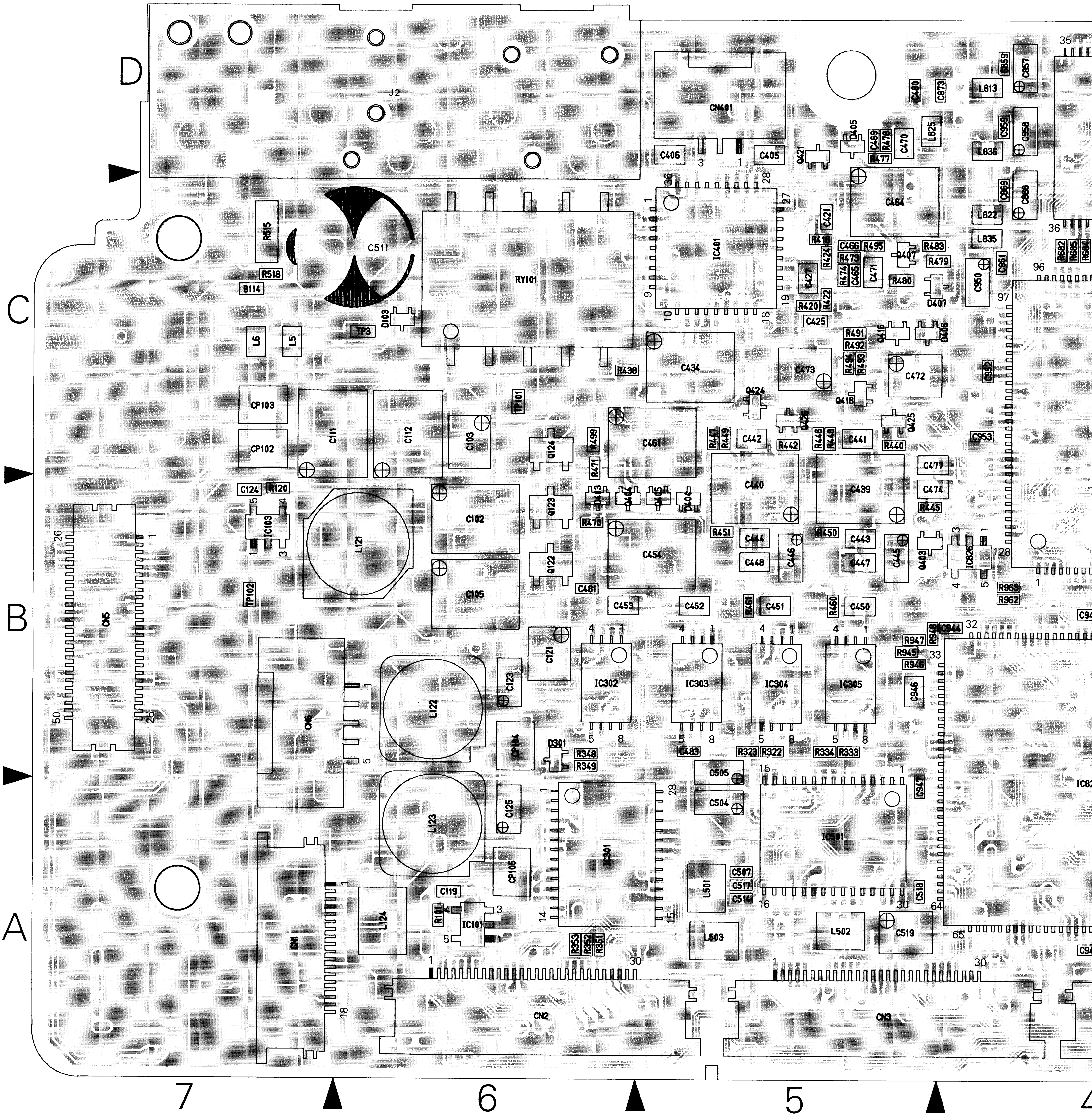
REF.No.	LOCATION		
R819	A	C	1C
R820	B	C	2C
R821	A	C	1C
R822	A	C	1C
R823	B	C	2C
R824	B	C	2C
R825	B	C	2C
R826	B	C	2C
R827	B	C	2C
R828	B	C	2B
R829	B	C	2B
R830	B	C	2B
R831	B	C	2B
R832	B	C	2B
R833	B	C	2B
R834	A	C	1B
R835	A	C	1B
R836	A	C	1C
R837	A	C	1B
R839	B	C	2B
R840	B	C	1B
R841	A	C	1B
R842	B	C	1A
R843	B	C	1A
R844	A	C	3B
R848	B	C	2C
R849	A	C	3D
R851	A	C	2B
R852	B	C	3D
R853	B	C	3C
R854	B	C	3D
R856	B	C	3C
R857	B	C	3C
R858	B	C	3C
R859	B	C	3C
R860	B	C	3C
R861	B	C	4D
R862	B	C	4C
R863	B	C	4C
R864	B	C	4D
R865	B	C	4D
R866	B	C	3B
R867	B	C	3B
R868	B	C	4D
R869	B	C	3C
R870	B	C	3B
R871	B	C	1D
R872	B	C	1D
R873	B	C	3B
R874	B	C	4B
R875	B	C	3B
R876	B	C	3C
R877	B	C	2B
R878	B	C	2B
R879	B	C	1D

REF.No.	LOCATION		
R880	B	C	4C
R881	B	C	4C
R882	B	C	4C
R883	B	C	4C
R884	B	C	4C
R885	B	C	2B
R886	B	C	1D
R887	B	C	1D
R888	B	C	1D
R889	B	C	1D
R890	B	C	1D
R891	B	C	1D
R892	B	C	1D
R893	B	C	1C
R894	B	C	1C
R895	A	C	1C
R896	A	C	1C
R897	A	C	1D
R898	B	C	1C
R899	B	C	4C
R900	B	C	4C
R901	B	C	1D
R902	B	C	2D
R903	B	C	1D
R904	B	C	2C
R905	B	C	2C
R906	B	C	2D
R907	B	C	2D
R908	B	C	1C
R909	A	C	1C
R910	B	C	1C
R911	B	C	2C
R912	B	C	2C
R913	B	C	1D
R914	B	C	1D
R915	B	C	1C
R916	B	C	1C
R917	B	C	1C
R918	B	C	1C
R919	B	C	1C
R920	B	C	1C
R921	B	C	1C
R922	B	C	1C
R923	B	C	1C
R924	B	C	1C
R925	B	C	1C
R926	B	C	1C
R927	B	C	2C
R928	A	C	2C
R929	A	C	2C
R930	B	C	2C
R931	B	C	2C
R932	B	C	2C
R933	B	C	1C
R936	B	C	1C

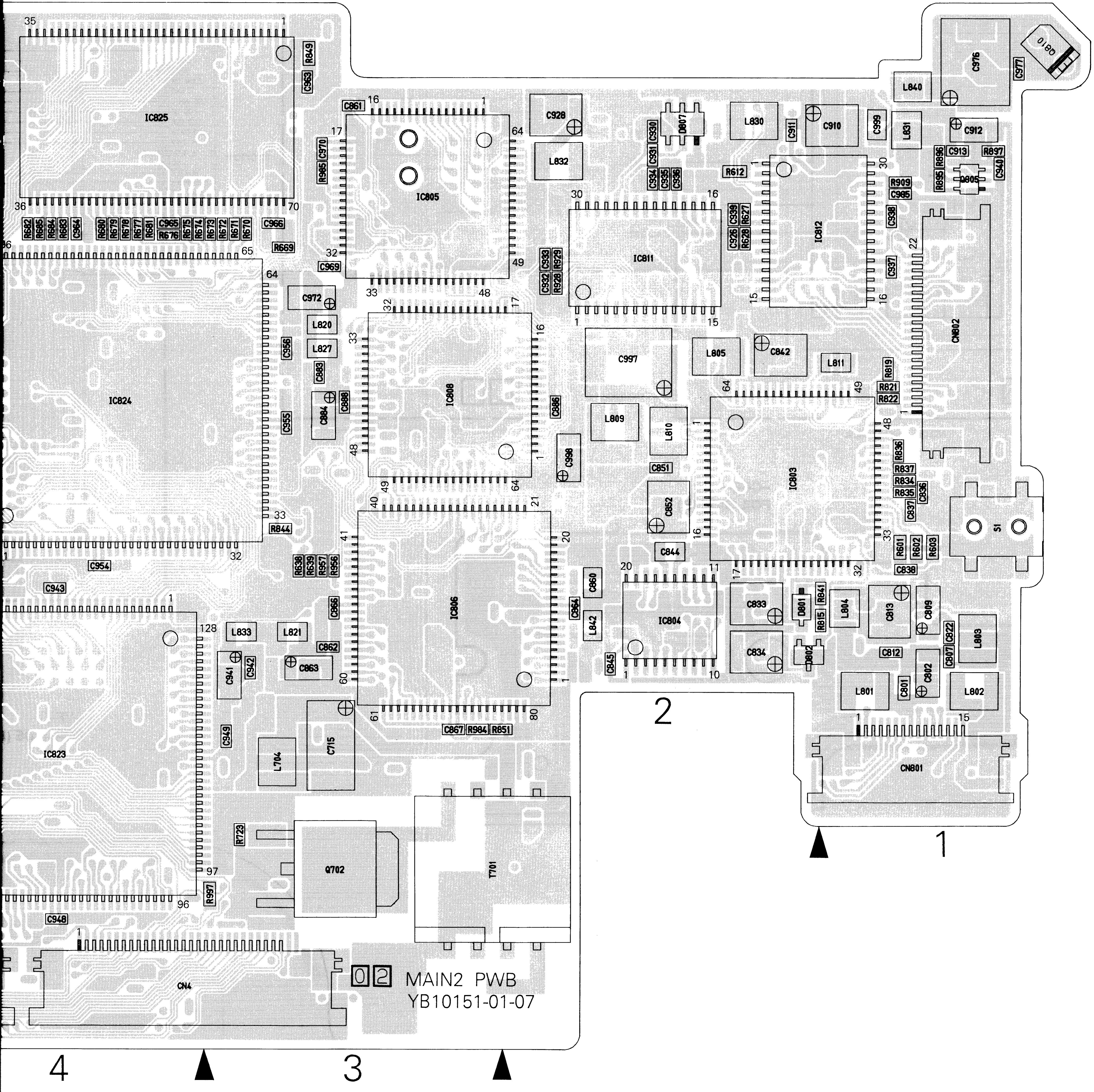
REF.No.	LOCATION		
R938	B	C	1C
R939	B	C	1C
R940	B	C	1D
R941	B	C	1D
R942	B	C	1D
R943	B	C	1D
R945	A	C	5B
R946	A	C	5B
R947	A	C	5B
R948	A	C	4B
R950	B	C	1C
R951	B	C	1C
R952	B	C	1C
R953	B	C	3C
R954	B	C	4C
R955	B	C	4C
R956	A	C	3B
R957	A	C	3B
R958	B	C	4C
R959	B	C	4C
R962	A	C	4B
R963	A	C	4B
R964	B	C	4D
R965	B	C	4D
R966	B	C	4D
R967	B	C	4D
R968	B	C	3C
R969	B	C	3C
R970	B	C	4B
R971	B	C	4B
R973	B	C	3B
R974	B	C	3B
R975	B	C	4B
R976	B	C	5B
R977	B	C	4C
R978	B	C	4B
R979	B	C	4D
R980	B	C	4D
R982	B	C	4B
R983	B	C	4C
R984	A	C	3B
R985	A	C	3C
R986	B	C	4C
R987	B	C	3B
R988	B	C	3B
R989	B	C	4C
R990	B	C	3B
R991	B	C	3B
R992	B	C	4C
R993	B	C	4C
R994	B	C	4C
R995	B	C	4C
R996	B	C	4B
R997	A	C	3A
R998	B	C	3B

REF.No.	LOCATION		
R999	B	C	3B
TEST POINT			
TP1	A	D	6C
TP2	A	D	6C
TP3	A	C	6C
TP4	B	C	7D
TP5	B	C	6C
TP101	A	C	6C
TP102	A	C	7B
TP501	B	C	5A
TP502	B	C	5A
TP503	B	C	5A
TP701	B	C	4A
TP703	B	C	3A
TP704	B	C	3A
TP705	B	C	3B
TP706	B	C	3A
TP715	B	C	3A
TP801	B	C	3C
TP802	B	C	1B
TP803	B	C	1B
TP804	B	C	3C
TP805	B	C	1B
TP806	B	C	1B
TP807	B	C	3C
TP808	B	C	2B
TP809	A	C	2C
TP810	B	C	3B
TP811	B	C	4C
TP812	B	C	4C
TP813	B	C	3C
TP814	B	C	1A
TP817	B	C	3B
TP818	B	C	3B
TP819	B	C	4B
TP820	B	C	4C
CP			
CP101	B	C	6C
CP102	A	C	7C
CP103	A	C	7C
CP104	A	C	6B
CP105	A	C	6A
SWITCH			
S1	A	C	1B
S2	B	C	3C
RESONATOR			
X801	B	C	4D
X802	B	C	3D
X803	B	C	3C
X804	B	C	4C
OTHERS			

REF.No.	LOCATION		
LC501	B	C	7C
LPF501	B	C	5A
RY101	A	C	6C
T701	A	C	2A

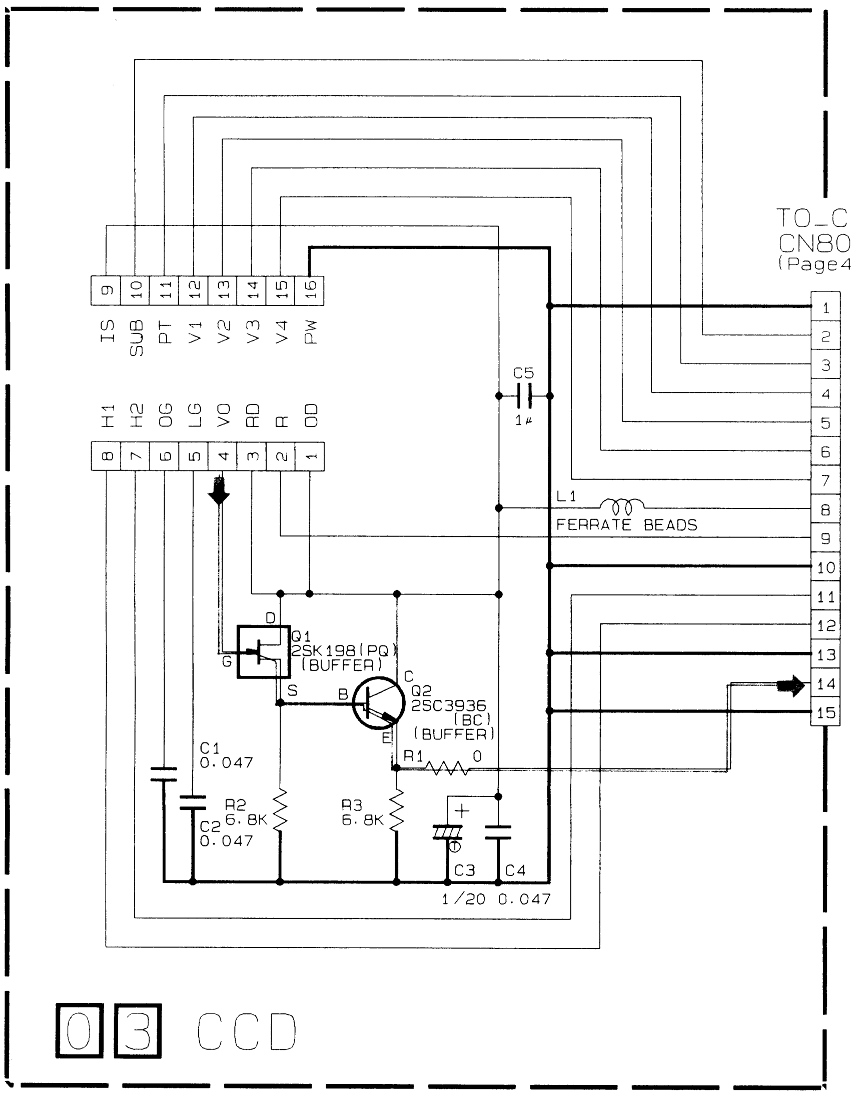

D
C
B
A
7
6
5
J2
CN401
C406
C405
Q421
D405
C469
R478
R477
C470
C480
C873
L825
L813
C859
C857
C959
C958
L836
C869
C868
L822
L835
C464
IC401
C421
R418
C466
R495
R483
R424
R473
D407
R479
C427
R474
C465
C471
R480
R420
R422
C425
C950
C951
R682
R685
R684
R515
C511
R518
B114
RY101
D103
TP3
L6
L5
R438
C434
C473
R491
R492
Q416
D406
R494
R493
C472
C952
Q418
Q424
Q426
Q425
CP103
CP102
C111
C112
C103
TP101
Q124
R499
C461
R447
R449
C442
R442
R446
R448
C441
R440
C953
R471
C440
C439
C477
C474
C124
R120
IC103
L121
C102
Q123
D403
D404
D405
D406
R470
R445
C454
R451
C444
R450
C443
C448
C446
C447
C445
Q403
IC826
CN5
TP102
C105
Q122
C481
C453
C452
R461
C451
R460
C450
R963
R962
CN6
C121
L122
C123
IC302
IC303
IC304
IC305
R948
R947
C944
R945
R946
C946
CP104
D301
R348
R349
C483
R323
R322
R334
R333
C505
C504
C947
L123
C125
IC301
IC501
CP105
L501
C507
C517
C514
C518
C119
R101
IC101
L124
CN1
L503
L502
C519
R353
R352
R351
CN2
CN3

ONENT SIDE(A) —

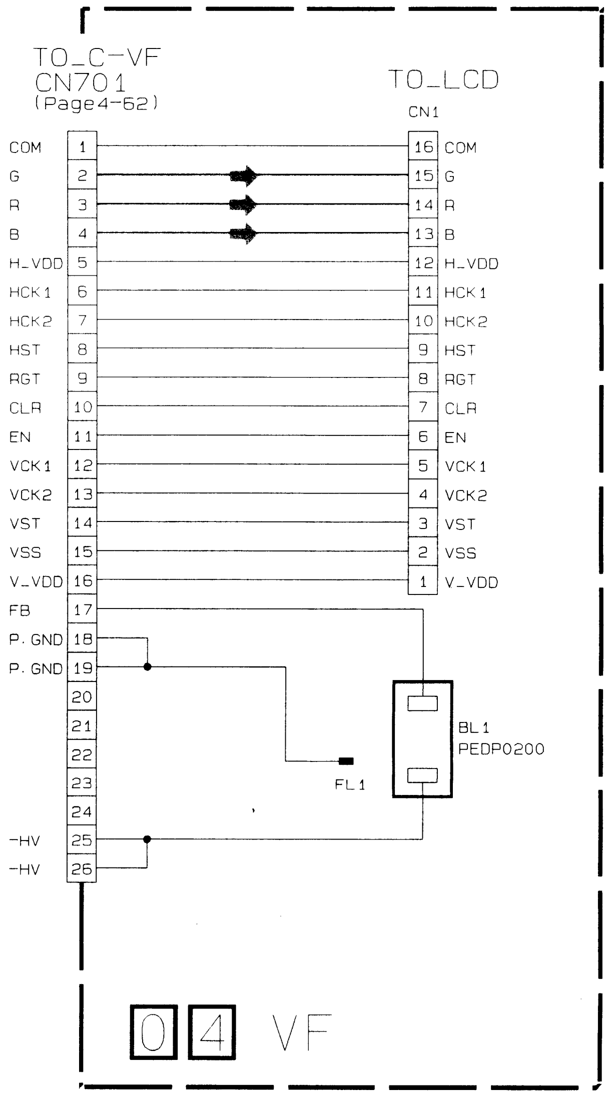

IC825
R849
C963
35
1
36
70
R682
R685
R684
R683
C964
R680
R679
R678
R677
R681
C965
R676
R675
R674
R673
R672
R671
R670
C966
R669
65
64
IC824
C956
C955
C883
C884
C888
L820
L827
C972
33
32
R844
C954
C943
1
128
97
96
IC823
R997
C948
L833
L821
C862
C941
C942
C863
C949
L704
C715
R723
Q702
T701
CN4
02 MAIN2 PWB
YB10151-01-07
C861
16
17
64
IC805
R965
C970
C969
49
48
C928
L832
IC808
C886
C998
IC806
R638
R639
R957
R956
C966
C860
C964
L842
C845
C867
R984
R851
40
41
21
20
60
61
80
D807
C930
C931
C934
C935
C936
C932
C933
R928
R929
IC811
30
15
C926
C939
R628
R627
L830
C911
C910
C999
L831
R612
IC812
R909
C985
C938
C937
22
CN802
C912
C913
R897
R896
R895
Q805
C940
L840
C976
C977
Q810
C997
L805
C842
L811
L809
L810
C851
C852
C844
IC803
R819
R821
R822
R836
R837
R834
R835
C836
C837
R601
R602
R603
C838
S1
IC804
C833
C834
D801
R841
R815
D802
L804
C813
C809
C822
C807
L803
C812
C802
L801
C801
L802
CN801
15
4
3
2
1

MAIN2 CIRCUIT BOARD

4.25 CCD/VF SCHEMATIC DIAGRAM, CCD/VF CIRCUIT BOARDS AND OPERATION UNIT SCHEMATIC DIAGRAM

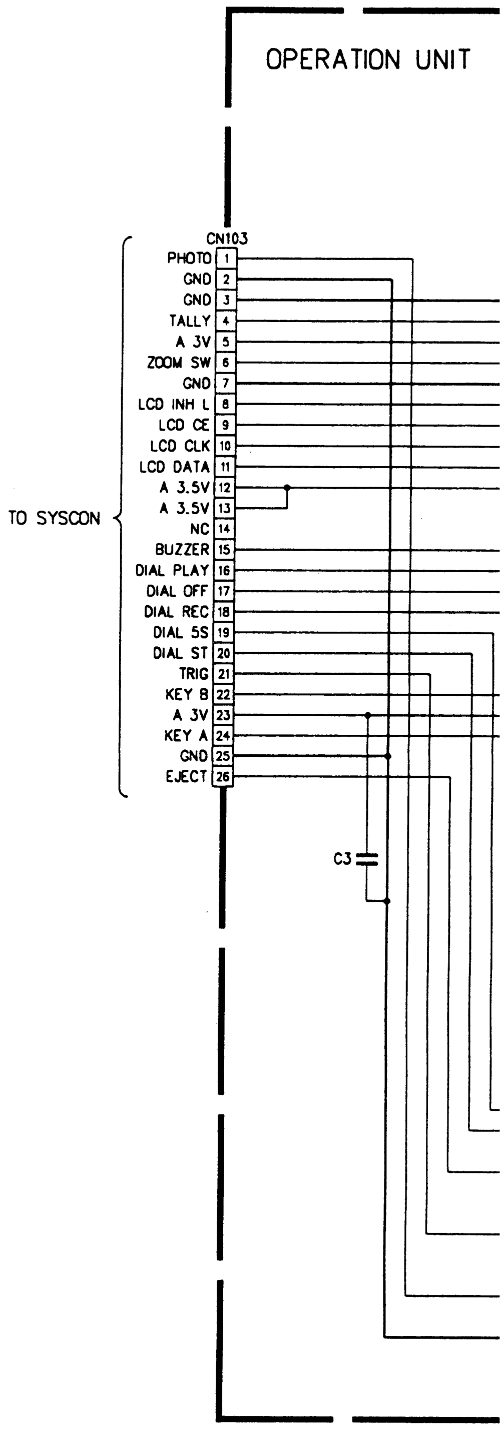

TO_CDS
CN801
(Page4-70)
1 A_GND
2 SUB
3 PT
4 V1
5 V2
6 V3
7 V4
8 16.5V
9 R
10 A_GND
11 H2
12 H1
13 A_GND
14 OUT
15 A_GND
9 IS
10 SUB
11 PT
12 V1
13 V2
14 V3
15 V4
16 PW
8 H1
7 H2
6 OG
5 LG
4 VO
3 RD
2 R
1 OD
C5
1μ
L1
FERRATE BEADS
D
Q1
2SK198(PQ)
(BUFFER)
G
S
B
C
Q2
2SC3936
(BC)
(BUFFER)
E
R1
0
C1
0.047
C2
0.047
R2
6.8K
R3
6.8K
C3
C4
1/20 0.047
03 CCD

NOTE → VO signal

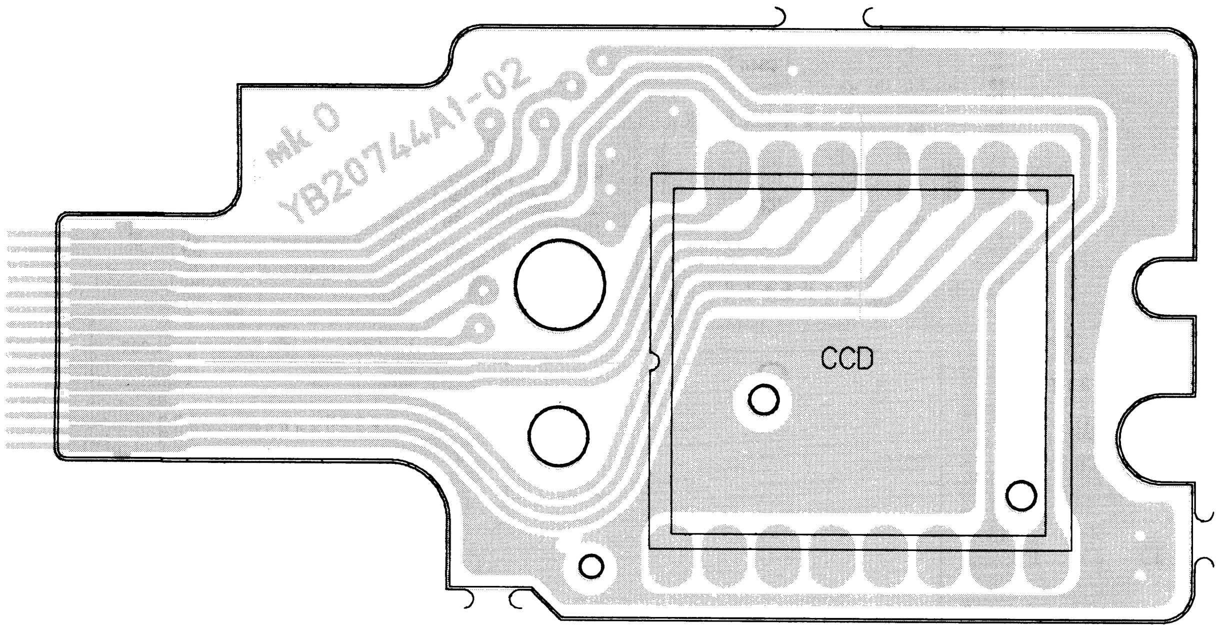

TO_C-VF
CN701
(Page4-62)
TO_LCD
CN1
COM 1
G 2
R 3
B 4
H_VDD 5
HCK1 6
HCK2 7
HST 8
RGT 9
CLR 10
EN 11
VCK1 12
VCK2 13
VST 14
VSS 15
V_VDD 16
FB 17
P.GND 18
P.GND 19
20
21
22
23
24
-HV 25
-HV 26
16 COM
15 G
14 R
13 B
12 H_VDD
11 HCK1
10 HCK2
9 HST
8 RGT
7 CLR
6 EN
5 VCK1
4 VCK2
3 VST
2 VSS
1 V_VDD
BL1
PEDP0200
FL1
04 VF

NOTE → RED BLUE GREEN signal

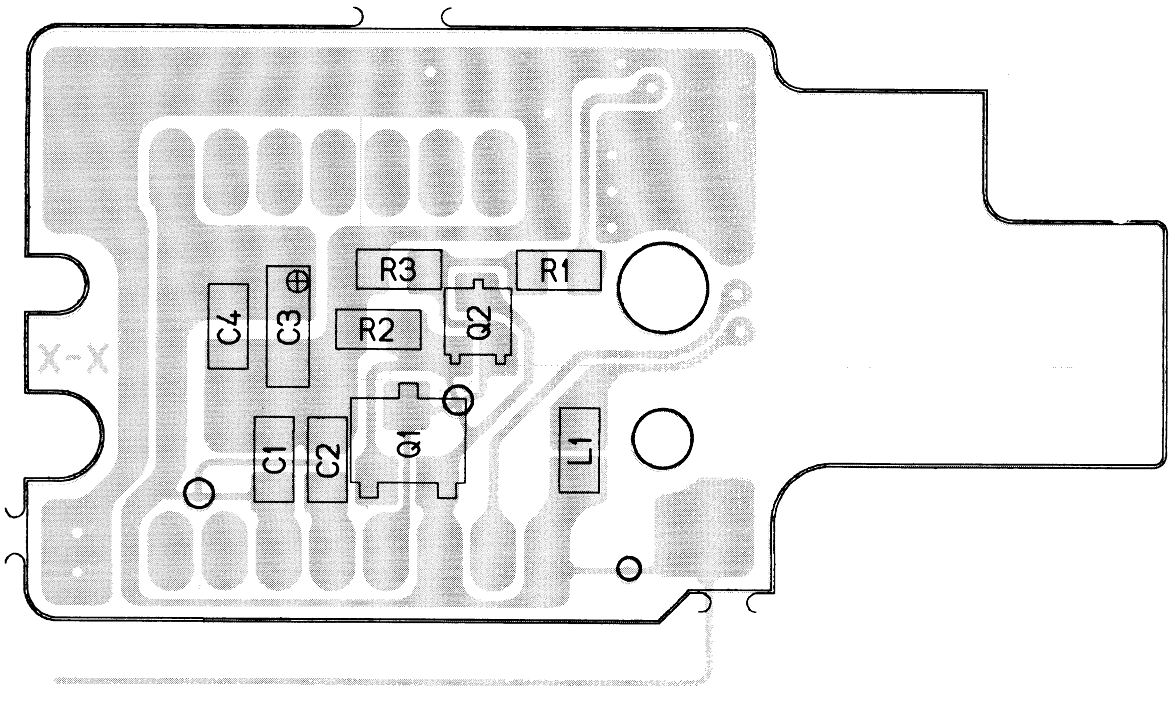
-OPERATION-


OPERATION UNIT
CN103
TO SYSCON
PHOTO 1
GND 2
GND 3
TALLY 4
A 3V 5
ZOOM SW 6
GND 7
LCD INH L 8
LCD CE 9
LCD CLK 10
LCD DATA 11
A 3.5V 12
A 3.5V 13
NC 14
BUZZER 15
DIAL PLAY 16
DIAL OFF 17
DIAL REC 18
DIAL 5S 19
DIAL ST 20
TRIG 21
KEY B 22
A 3V 23
KEY A 24
GND 25
EJECT 26
C3

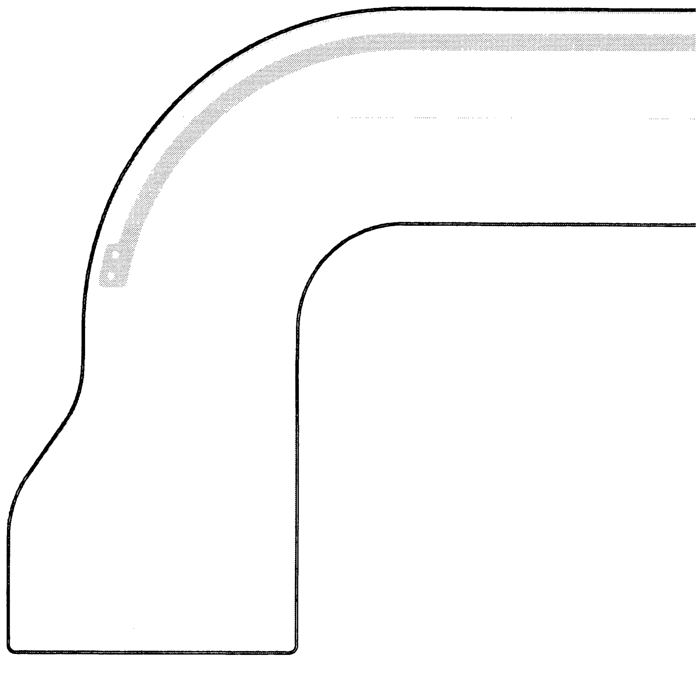
-CCD-
FOIL SIDE (B)


mk 0
YB20744A1-02
CCD

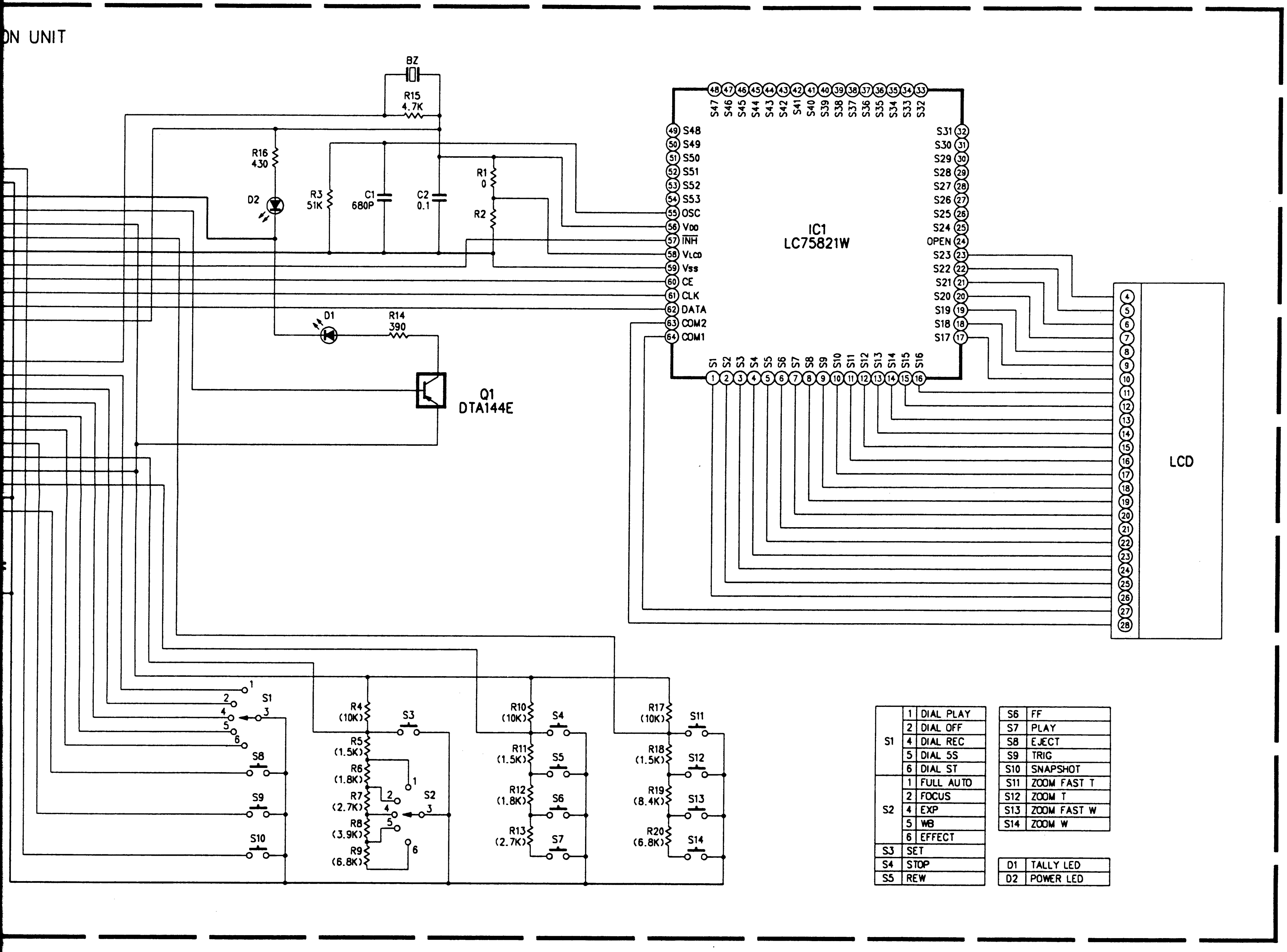
COMPONENT SIDE (A)


R3
R1
C4
C3
R2
Q2
X-X
C1
C2
Q1
L1

-VF-
FOIL SID



TION–


N UNIT
BZ
R15
4.7K
R16
430
D2
R3
51K
C1
680P
C2
0.1
R1
0
R2
IC1
LC75821W
S48
S49
S50
S51
S52
S53
OSC
VDD
INH
VLCD
VSS
CE
CLK
DATA
COM2
COM1
S31
S30
S29
S28
S27
S26
S25
S24
OPEN
S23
S22
S21
S20
S19
S18
S17
D1
R14
390
Q1
DTA144E
LCD
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
R4
(10K)
R5
(1.5K)
R6
(1.8K)
R7
(2.7K)
R8
(3.9K)
R9
(6.8K)
R10
(10K)
R11
(1.5K)
R12
(1.8K)
R13
(2.7K)
R17
(10K)
R18
(1.5K)
R19
(8.4K)
R20
(6.8K)

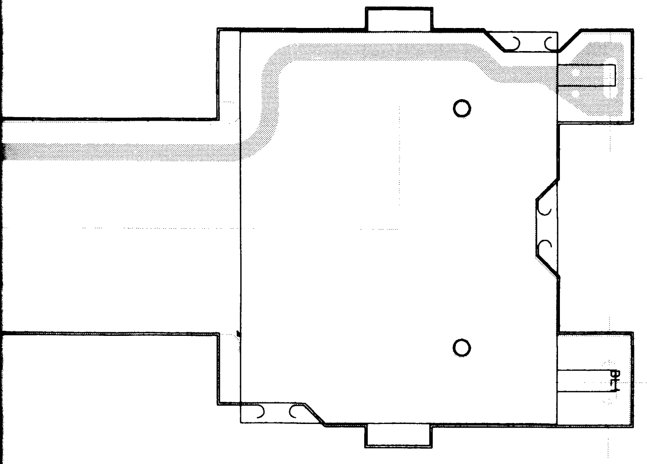
S1	1	DIAL PLAY
	2	DIAL OFF
	4	DIAL REC
	5	DIAL 5S
	6	DIAL ST
S2	1	FULL AUTO
	2	FOCUS
	4	EXP
	5	WB
	6	EFFECT
S3	SET	
S4	STOP	
S5	REW	

S6	FF
S7	PLAY
S8	EJECT
S9	TRIG
S10	SNAPSHOT
S11	ZOOM FAST T
S12	ZOOM T
S13	ZOOM FAST W
S14	ZOOM W

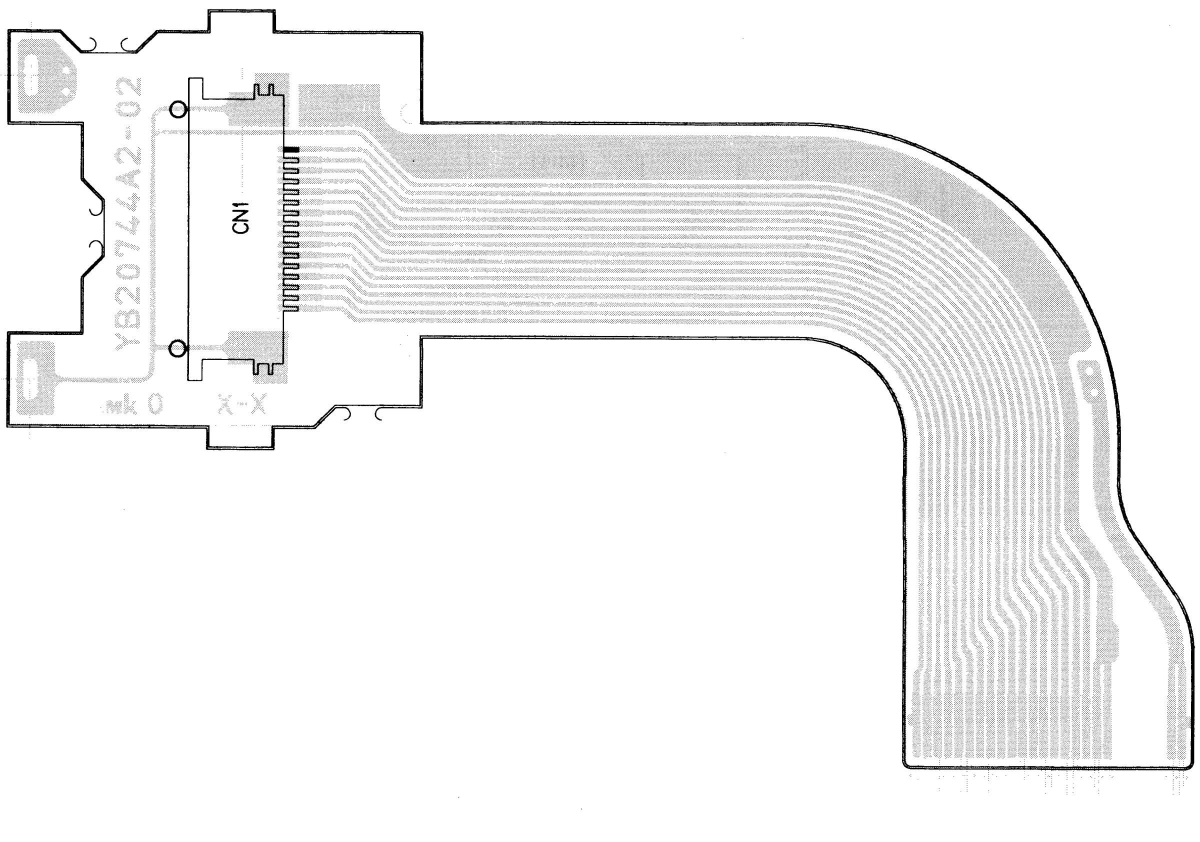
D1	TALLY LED
D2	POWER LED

–VF–

FOIL SIDE (B)

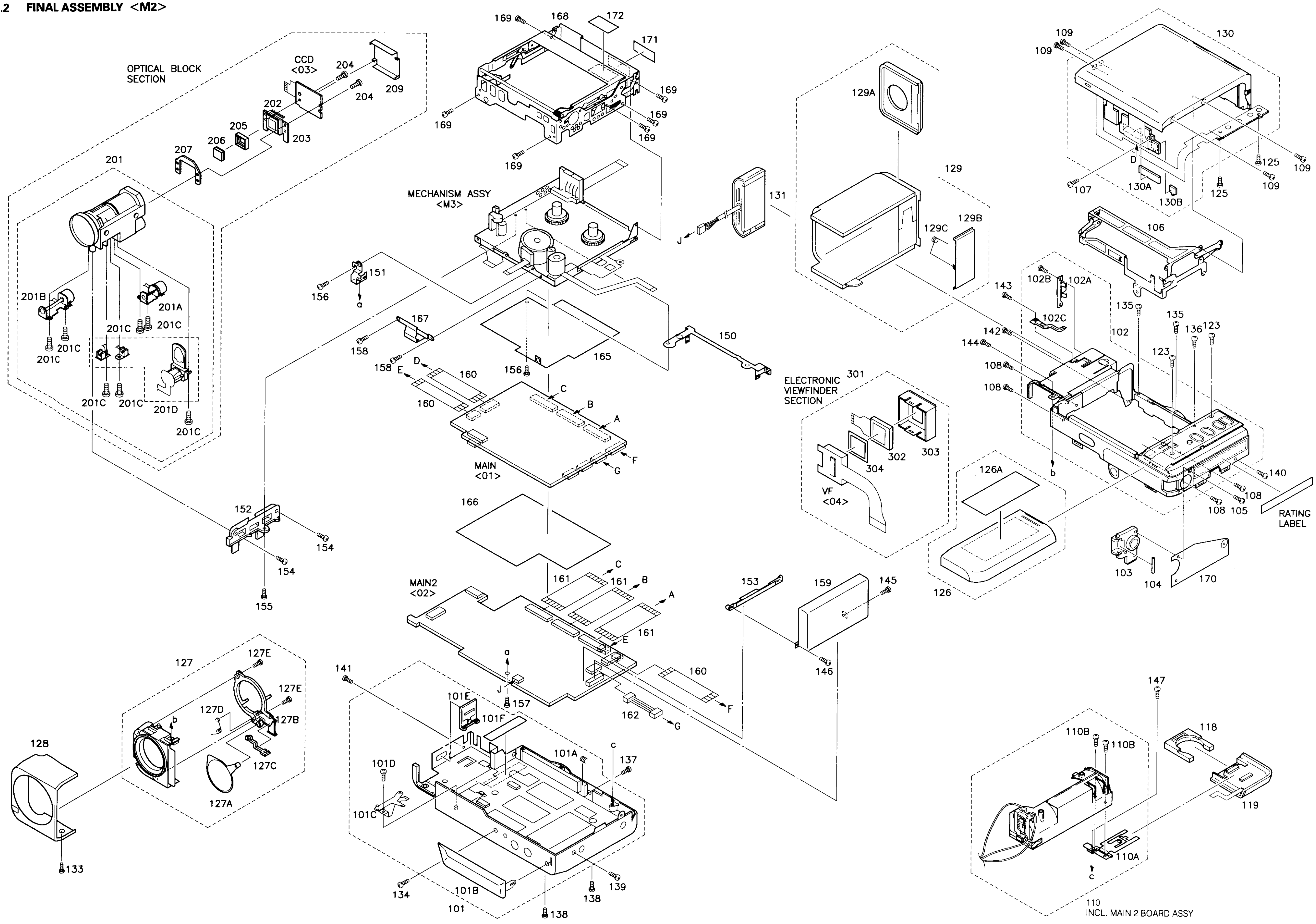


COMPONENT SIDE (A)


CN1
YB20744A2-02
X-X

4.25 CCD/VF SCHEMATIC DIAGRAM, CCD/VF CIRCUIT BOARDS AND OPERATION UNIT SCHEMATIC DIAGRAM

5.2 FINAL ASSEMBLY <M2>



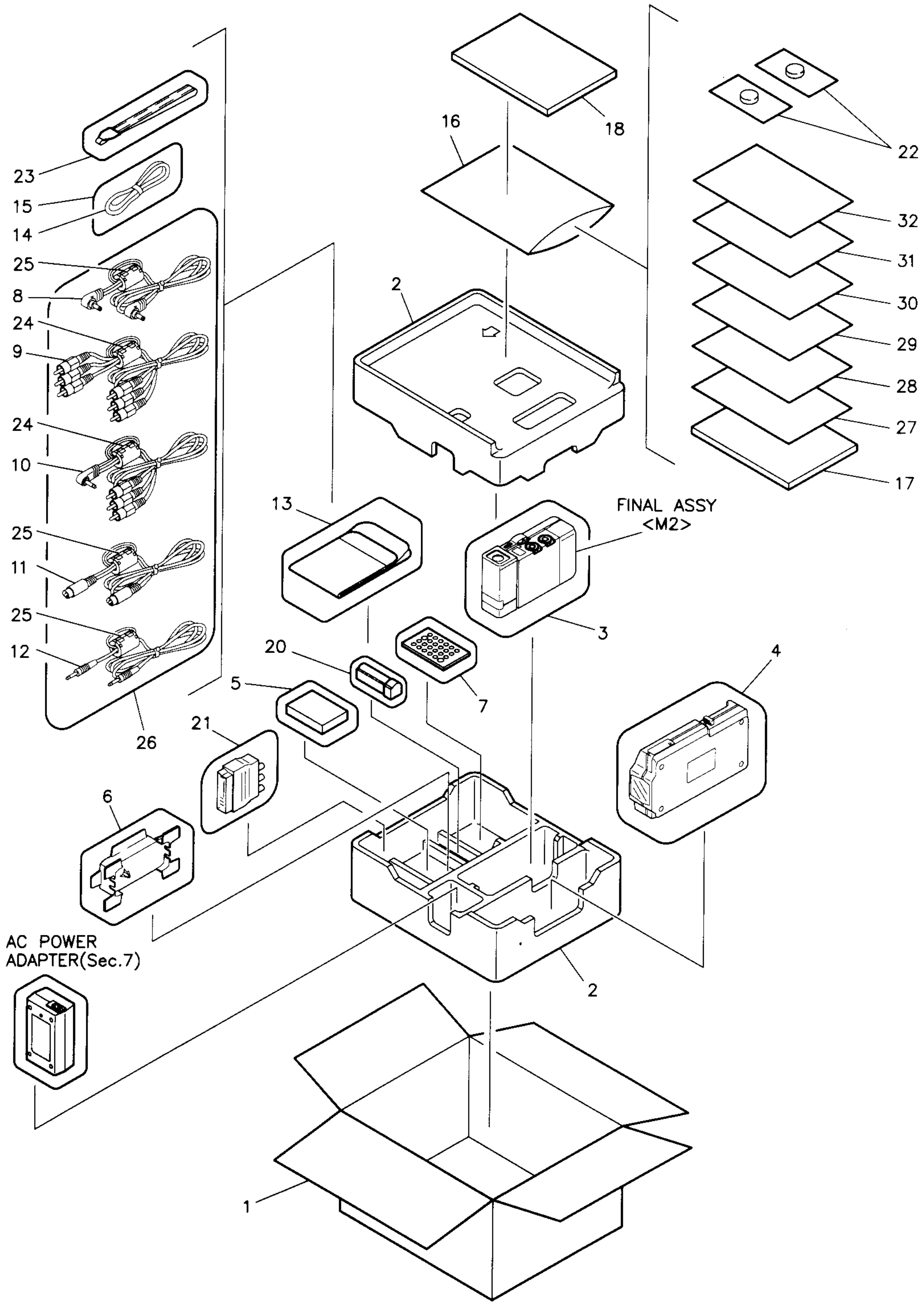
OPTICAL BLOCK SECTION
CCD <03>
201
201A
201B
201C
201D
202
203
204
205
206
207
209
169
168
172
171
MECHANISM ASSY <M3>
131
J
129
129A
129B
129C
130
130A
130B
109
125
107
D
106
102
102A
102B
102C
135
136
123
143
142
144
108
105
140
RATING LABEL
103
104
170
126
126A
ELECTRONIC VIEWFINDER SECTION
301
302
303
304
VF <04>
151
156
a
167
158
150
165
160
E
C
B
A
F
G
MAIN <01>
166
161
MAIN2 <02>
152
154
155
153
159
145
146
157
162
127
127A
127B
127C
127D
127E
128
133
141
101
101A
101B
101C
101D
101E
101F
137
139
138
134
c
b
147
110A
110B
118
119
110 INCL. MAIN 2 BOARD ASSY

SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>



****

PACKING ASSEMBLY <M1>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	YQ32292-3	PACKING CASE,EG
		YQ32339-3	PACKING CASE,EG(F)
	2	YQ32301A-1	CUSHION ASSY
	3	YQ44535A	POLY BAG ASSY
	4	YQ10596D-5	D.STATION ASSY,EG
		YQ10596D-6	D.STATION ASSY,EG(F)
	5	—	TAPE ASSY
	6	YQ32282-1-2	MOVIE STAND
	7	YQ20922B-3	REMOTE CONTROLLER,EG
		YQ20922D	REMOTE CONTROLLER,EG(F)
	8	PEAC0414-02	DC PLUG CORD
	9	PEAC0349-150	PIN CORD,AUDIO/VIDEO
	10	PEAC0434-02	CABLE ASSY,AUDIO/VIDEO(ø3.5)
	11	PEAC0366-150	S CABLE,S-VIDEO CABLE
	12	PEAC0369-150	CABLE ASSY,EDITING CABLE
	13	YQ20930-2	S.CAMERA CASE
⚠	14	QMP40E0-183	POWER CORD
	15	QPGA014-02204	POLY BAG
	16	YQM30061-2	POLY BAG
⚠	17	YU30052-625	INSTRUCTIONS(EN),EG
⚠		YU30052-627-1	INSTRUCTIONS,EG(F)
⚠	18	YU30052-626	INSTRUCTIONS(GE),EG
		or YU30052-627-1	INSTRUCTIONS(FR),EG
		or YU30052-628	INSYRUCTIONS(IT),EG
		or YU30052-629	INSTRUCTIONS(SP),EG
		or YU30052-630	INSTRUCTIONS(DU),EG
		or YU30052-631	INSTRUCTIONS(DA),EG
		or YU30052-632	INSTRUCTIONS(FI),EG
		or YU30052-633	INSTRUCTIONS(SW),EG
		or YU30052-634	INSTRUCTIONS(NO),EG
⚠	20	YQ20926H	BATTERY PACK ASSY,EG
⚠		YQ20926H-7	BATTERY PACK ASSY,EG(F)
	21	PEMC1000-01-01	CONNECTOR,CABLE ADAPTER
⚠	22	PECA0903	LI BATTERY,X2
	23	YQ32249	HAND STRAP
	24	PELN1216-05	NOISE FILTER,X2
	25	PELN1216-10	NOISE FILTER,X3
	26	QPGA017-03005	POLY BAG
	27	YU30052-637	INST SHEET,EG
		YU30052-637-1	INST SHEET,EG(F)
	28	YU30052-638	INST SHEET,EG
		YU30052-643	INST SHEET,EG(F)
	29	YU30052-639	INST SHEET,EG
	30	YU30052-640	INST SHEET,EG
	31	YU30052-642	INST SHEET,EG
	32	YU30052-641	CAUTION SHEET

- INSTRUCTIONS

EN .... ENGLISH
GE .... GERMANY
FR .... FRENCH
IT .... ITALIAN
SP .... SPANISH
DU .... DUTCH
DA .... DANISH
FI .... FINNISH
SW ...... SWEDISH
NO .... NORWEGIAN
CH .... CHINESE
RU .... RUSSIAN

****

FINAL ASSEMBLY <M2>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
101	YQ20891D-20	LOWER CASE ASSY,EG
	YQ20891D-22	LOWER CASE ASSY,EG(F)
101A	YQM30002-52-14	COMPRESSION SPRING
101B	YQ31998-1-3	CAP(JACK)
101C	YQ44168A-2	LEVER ASSY
101D	SPSJ1730Z	SCREW
101E	YQ44154	BUTTON(MENU)
101F	YQ44506-2	LABEL(CAUTION),EG
102	YQ20892D-14	UPPER CASE ASSY
102A	YQ44164-1-3	SPRING(LOCK-T)
102B	SPSK1720Z	SCREW
102C	YQ44418	STOPPER(VF)
103	YQ32006-1-1	BASE
104	YQ44183	SHAFT(STRAP)
105	SPSJ1740M	SCREW
106	YQ44172A-4	ARM ASSY
107	YQM30032-66	SPECIAL SCREW
108	SPSK1715R	SCREW,X4
109	YQM30032-66	SPECIAL SCREW,X4
110	YS30796A-2	BATTERY HOLDER ASSY,INCL.MAIN2 BOARD ASSY
110A	YQ44173A-4	HINGE ASSY
110B	YQM30032-67	SCREW,X2
118	YQ32030-1-3	LI.CASE(2)
119	YS30797E	LI.CASE ASSY
123	SPSJ1730M	SCREW,X2
125	SPSJ1725M	SCREW,X2
126	YQ32025A-4	COVER ASSY(OPE),EG
	YQ32025E	COVER ASSY(OPE),EG(F)
126A	YU42113	LABEL(BATTREY),EG
127	YQ32023A-6	FRONT CASE ASSY
127A	YQ44160-1-3	SHUTTER
127B	YQ32009-1-2	HOLDER(SHUTTER)
127C	YQ44161-1-2	LEVER(SHUTTER)
127D	YQ44182-1-1	TORSION SPRING
127E	SPSJ1740Z	SCREW,X2
128	YQ32026A-3	COVER ASSY(FR)
129	YQ32024C	VF ASSY
129A	YQ32013-1-7	EYE CAP
129B	YQ32033-1-2	COVER(SLIDE)
129C	YQ44185-1-1	TORSION SPRING
130	YQ20859E	OPERATION ASSY
130A	PEMC1141-026-X	CONNECTOR
130B	PESW0667-P	PUSH SWITCH
131	YQ31954-1-6	MICROPHONE
133	SPSJ1740R	SCREW
134	SPSK1730R	SCREW
135	SPSJ1750M	SCREW,X2
136	SPSK1725M	SCREW
137	SPSK1730R	SCREW
138	SPSK1470R	SCREW,X2
139	SPSJ1740R	SCREW

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
140	SPSK1725M	SCREW
141	SPSK1725M	SCREW
142	SPSK1730R	SCREW
143	SPSJ1750M	SCREW
144	SPSK1730R	SCREW
145	SPSK1420Z	SCREW
146	YQ43893-5	MINI SCREW
147	SPSJ1740R	SCREW
150	YQ32015-1-3	BRACKET(1)
151	YQ44165-1-2	BRACKET(2)
152	YQ32016-1-3	OP FRAME
153	YQ44249-1-5	PLATE(MULTI)
154	SPSJ1740M	SCREW,X2
155	SPSK1420Z	SCREW
156	YQM30060-7	SPECIAL SCREW,X2
157	YQM30060-8	SPECIAL SCREW
158	YQ43893-4	MINI SCREW,X2
159	PEAS2177-02	DC-DC CONVERTER
160	YQ44408	MAIN FPC ※ NOTE 1)
161	PEWR0815	FPC,X3
162	ML-Y00741A	GND WIRE
165	YQ32248-1-3	SHIELD PLATE
166	YQ44343	PWB SHIELD
167	YQ44350-1-4	COVER(CASE)
168	YQ32056A-17	CASSETTE HOUSING ASSY
169	YQ43893-6	MINI SCREW,X6
170	YQ44483	BKT(BOTTOM)
171	YQ44358-2	LABEL(HOUSING),EG
	YQ44358-2-1	LABEL(HOUSING),EG(F)
172	YQ44359-3	LABEL(PUSH),EG
	YQ44359-3-3	LABEL(PUSH),EG(F)

– OPTICAL BLOCK SECTION –

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
201	YU30800-1-1	OP BLOCK ASSY
201A	YU30800-002	FOCUS MOTOR UNIT
201B	YU30800-001	ZOOM MOTOR UNIT
201C	YU30787-010	SCREW,X7
201D	YU30800-106	IRIS MOTOR UNIT
202	MN3723CFE	CCD ASSY
203	YQ44133-1	CCD BASE
204	SPSN1770M	SCREW,X2
205	YQ31844	SPACER RUBBER
206	YU42080	OP LPF
207	YQ44134-1-1	CCD SPACER
209	YQ44425B	SHIELD C.ASSY

– ELECTRONIC VIEWFINDER ASSEMBLY –

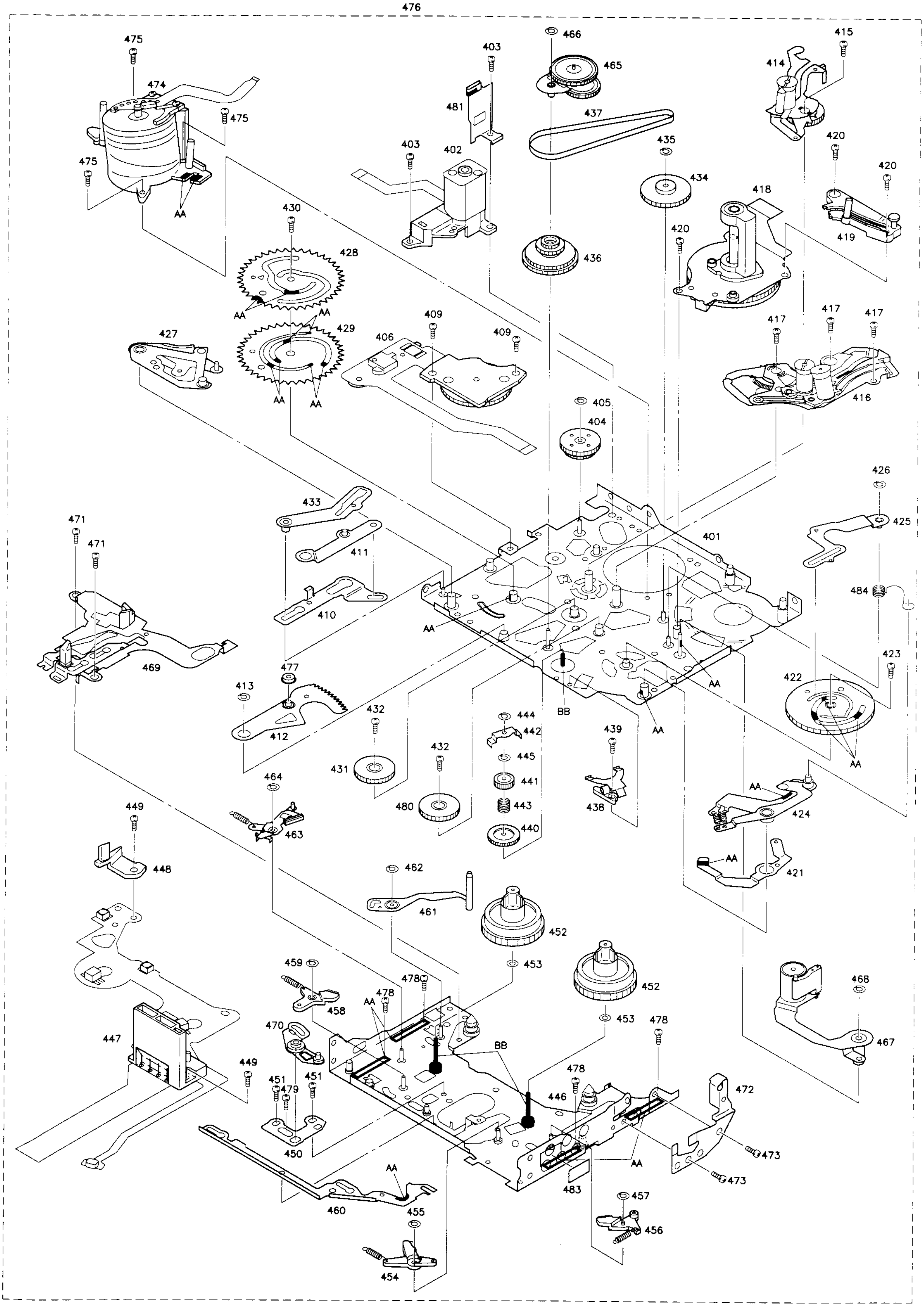
#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
301	YS30776A	E.VF ASSY
302	PEDP0181	LCD PANEL
303	YQ32014-1-5	HOLDER(LCD)
304	YQ44540	SHEET

NOTE 1) : This flex has turned into 3 pieces 1 set.
An order in a single article is not possible.

5.3 MECHANISM ASSEMBLY <M3>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



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471
425
471
401
411
484
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422
AA
413
412
BB
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439
AA
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445
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431
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464
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424
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AA
448
421
AA
462
461
452
459
453
478
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468
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AA
458
470
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478
467
447
BB
449
478
472
451
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451
446
450
473
AA
473
483
457
AA
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454

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

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MECHANISM ASSEMBLY <M3>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
401	YQ10539A-12	MAIN DECK ASSY
402	YQ32058A-6	MOTOR BRACKET ASSY
403	YQ43893-1	MINI SCREW,X2
404	YQ43892	WORM WHEEL
405	YQ44246	SLIT WASHER
406	YS30779A	ROTARY ENCODER ASSY
409	YQ43893-1	MINI SCREW,X2
410	YQ32176	EJECT PLATE
411	YQ44416A-4	EJECT LEVER ASSY
412	YQ43896A-5	ARM GEAR ASSY
413	PQM30017-43	SLIT WASHER
414	YQ31873A-17	GUIDE RAIL(SUPPLY)ASSY
415	YQ43893-1	MINI SCREW
416	YQ20833A-9	GUIDE RAIL(TAKE-UP)ASSY
417	YQ43893-1	MINI SCREW,X3
418	YU42094-1-5	CAPSTAN MOTOR
419	YQ31881A-5	MIDLE CATCHER ASSY
420	YQ43893-1	MINI SCREW,X3
421	YQ43916A-5	CLUTCH LOCK LEVER ASSY
422	YQ44594A-1	SUB CAM GEAR ASSY
423	YQ43893-1	MINI SCREW
424	YQ32039A-11	CHARGE ARM ASSY
425	YQ44592A	BRAKE CTL ARM ASSY
426	YQ44246	SLIT WASHER
427	YQ44364A-4	SLIDE LEVER ASSY
428	YQ44551A-3	MAIN CAM(1) ASSY
429	YQ31888-1-7	MAIN CAM(2)
430	YQ43893-7	MINI SCREW
431	YQ43927-1-2	CONNECT GEAR
432	YQ43893-1	MINI SCREW,X2
433	YQ43928A-6	TENSION ARM CTL PLATE ASSY
434	YQ43931A	R.DRIVE PULLEY ASSY
435	YQ44246	SLIT WASHER
436	YQ43934A-6	CENTER GEAR ASSY
437	YQ43936	TIMING BELT
438	YQ43946A-6	BASE PLATE ASSY
439	YQ43893-1	MINI SCREW
440	YQ31892-1-1	C.LOCK GEAR(1)
441	YQ43950	C.LOCK GEAR(2)
442	YQ43951-1-1	PUSH PLATE
443	YQ32050-1	COMPRESSION SPRING
444	YQ44246	SLIT WASHER
445	YQ43933	WASHER
446	YQ10541A-9	SLIDE DECK ASSY
447	YQ31893A-9	FPC ASSY
448	YQ31895-1-5	PRISM(S)
449	YQ43893-1	MINI SCREW,X2
450	YQ32180	SLIDE GUIDE PLT
451	YQ43893-2	MINI SCREW,X2
452	YQ43965A-3	REEL DISK ASSY,X2
453	YQ43933	WASHER,X2
454	YQ43970A-8	SUB BRAKE ASSY
455	YQ44246	SLIT WASHER
456	YQ43971A-5	MAIN BRAKE(TAKE-UP)ASSY
457	YQ44246	SLIT WASHER
458	YQ43972A-4	MAIN BRAKE(SUPPLY)ASSY
459	YQ44246	SLIT WASHER
460	YQ43974A-8	CTL.PLATE ASSY
461	YQ43975A-7	TENSION ARM ASSY
462	YQ44246	SLIT WASHER
463	YQ44216A-6	PAD ARM ASSY
464	YQ44246	SLIT WASHER
465	YQ43983A-4	SWING ARM ASSY
466	YQ44246-2	SLIT WASHER
467	YQ32043B-16	PINCH ROLLER ARM ASSY
468	YQ44246	SLIT WASHER
469	YQ44374A-7	REEL COVER ASSY
470	YQ44379A-4	RELEASE LEVER2 ASSY
471	YQ43893-1	MINI SCREW,X2
472	YQ44080-1-2	LID GUIDE
473	YQ43893-1	MINI SCREW,X2
474	YDV2072C	DRUM ASSY
475	YQ43893-1	MINI SCREW,X3
476	YMA0018D	MECHA(A) ASSY
	or YMA0018C	MECHA(A) ASSY
477	YQ44454	COLLER·
478	YQ43893-1	MINI SCREW,X4
479	YQ43893-2	MINI SCREW
480	YQ44560-1-2	CONNECT GEAR 2
481	YQ44559-1-3	ASSIST SPRING
483	YQ44351	SHEET(R.ENC)
484	YQ44637	LIMIT SPRING

5.4 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <01>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW	YB10150D-01	MAIN BOARD ASSY	
IC101	MB90678PFV-P01	IC	
IC102	TC7S08FU	IC	
IC103	TC7W04FU	IC	
IC104	TC7W32FU	IC	
IC105	TC4W66FU	IC	
IC106	TC7S08FU	IC	
IC107	TC7S32FU	IC	
IC109	PST9135N	IC	
IC201	M37774M5L407GP	IC	
IC202	BA6417F	IC	
IC203	TC7W14FU	IC	
IC251	UPD6461GS-912-X	IC	
IC252	S-3510ANFJ-TF	IC	
IC253	TC7W32FU	IC	
IC301	AN3861SA-XE	IC	
IC302	TA75W01FU	IC	
IC351	JCM5038-XE	IC	
IC401	UPC2384GA	IC	
IC402	M52660FP	IC	
IC403	M65401FP	IC	
IC501	MN657021F	IC	
IC502	MN657021F	IC	
IC503	M62366GP	IC	
IC504	MN67372A2	IC	
IC505	MN4707F	IC	
IC506	MN67371F	IC	
IC507	L7B1369	IC	
	or L7A1433	IC	
IC508	UPD42S4260ALA70	IC	
	or TC51V4260BFTLL	IC	
IC509	L7A1378	IC	
	or L7A1434	IC	
IC511	RH5RE23AA	IC	
IC512	TC7S66FU	IC	
IC601	AN3730FA	IC	
IC602	AN3740FAP	IC	
IC603	SC371025AVFU	IC	
IC604	M62366GP	IC	
Q105	DTA114TE	TRANSISTOR	
Q106	DTC144EE	TRANSISTOR	
Q107	DTC114EE	TRANSISTOR	
Q108	DTC114EE	TRANSISTOR	
Q203	UMC3N	TRANSISTOR	
Q204	UMC3N	TRANSISTOR	
Q205	DTC143EE	TRANSISTOR	
Q206	DTC143EE	TRANSISTOR	
Q207	UMC3N	TRANSISTOR	
Q351	DTC143EE	TRANSISTOR	
Q352	DTC143EE	TRANSISTOR	
Q501	2SC4617(QRS)	TRANSISTOR	
Q502	2SC4617(QRS)	TRANSISTOR	
Q503	DTA144EE	TRANSISTOR	
Q602	2SA1739(QR)	TRANSISTOR	
Q603	XN4504	TRANSISTOR	
Q604	2SA1577(PQR)	TRANSISTOR	
Q605	2SC4226(R24)	TRANSISTOR	
Q606	2SC4226(R24)	TRANSISTOR	
Q607	XN4504	TRANSISTOR	
Q608	DTC144EE	TRANSISTOR	
Q609	2SD1979(S)	TRANSISTOR	
Q610	2SA1739(QR)	TRANSISTOR	
Q620	2SA1774(QRS)	TRANSISTOR	
Q621	DTC144EE	TRANSISTOR	
Q624	DTA144EE	TRANSISTOR	
Q681	2SC4617(QRS)	TRANSISTOR	
D101	DAP222	DIODE	
D102	DAP222	DIODE	
D104	DAP222	DIODE	
D105	DAP222	DIODE	
D106	DAN222	DIODE	
D107	DAN222	DIODE	
D108	DAP222	DIODE	
DA201	DAP202U	DIODE	
DA202	DAP202U	DIODE	
R101	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R104	NRVA63D-473N	MF RESISTOR	47kΩ,1/16W
R105	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R106	NRVA63D-683N	MF RESISTOR	68kΩ,1/16W
R107	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R110	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R111	NRSA6AJ-332AW	RESISTOR	3.3kΩ,1/16W
R112	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R113	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R115	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R116	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R117	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R118	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R119	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R120	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R121	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R124	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R125	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R126	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R127	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R128	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R131	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R134	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R135	NRSA6AJ-682AW	RESISTOR	6.8kΩ,1/16W
R136	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R137	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R138	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R139	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R140	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R141	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R142	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R157	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R158	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R159	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R160	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R162	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R163	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R164	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R201	NRSA6AJ-332AW	RESISTOR	3.3kΩ,1/16W
R202	NRSA6AJ-332AW	RESISTOR	3.3kΩ,1/16W
R203	NRSA6AJ-332AW	RESISTOR	3.3kΩ,1/16W
R204	NRSA6AJ-332AW	RESISTOR	3.3kΩ,1/16W
R207	NRSA6AJ-184AW	RESISTOR	180kΩ,1/16W
R210	NRSA63J-820N	RESISTOR	82Ω,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R211	NRSA63J-101N	RESISTOR	100Ω,1/16W
R212	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R213	NRSA6AJ-221AW	RESISTOR	220Ω,1/16W
R214	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R215	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R217	NRSA6AJ-823AW	RESISTOR	82kΩ,1/16W
R218	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R219	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R220	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R221	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R222	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R223	NRSA6AJ-202AW	RESISTOR	2kΩ,1/16W
R224	NRSA6AJ-202AW	RESISTOR	2kΩ,1/16W
R225	NRVA63D-334N	RESISTOR	330kΩ,1/16W
R226	NRSA6AJ-274AW	RESISTOR	270kΩ,1/16W
R227	NRSA6AJ-563AW	RESISTOR	56kΩ,1/16W
R228	NRSA6AJ-563AW	RESISTOR	56kΩ,1/16W
R230	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R231	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R232	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R233	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R235	NRVA6AD-753AW	RESISTOR	75kΩ,1/16W
R251	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R252	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R304	NRSA6AJ-683AW	RESISTOR	68kΩ,1/16W
R305	NRSA6AJ-183AW	RESISTOR	18kΩ,1/16W
R306	YU41353-R47NZ	RESISTOR	0.47Ω,1/2W
R307	YU41353-R47NZ	RESISTOR	0.47Ω,1/2W
R308	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R309	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R310	NRSA6AJ-681AW	RESISTOR	680Ω,1/16W
R311	NRSA6AJ-224AW	RESISTOR	220kΩ,1/16W
R312	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R313	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R315	NRSA6AJ-683AW	RESISTOR	68kΩ,1/16W
R316	NRSA6AJ-623AW	RESISTOR	62kΩ,1/16W
R317	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R318	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R319	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R351	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
R352	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
R353	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
R354	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R355	NRSA6AJ-123AW	RESISTOR	12kΩ,1/16W
R356	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R357	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R359	YU41353-R47NZ	RESISTOR	0.47Ω,1/2W
R360	NRSA6AJ-752AW	RESISTOR	7.5kΩ,1/16W
R361	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R362	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R364	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R365	NRSA6AJ-123AW	RESISTOR	12kΩ,1/16W
R366	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R367	NRSA63J-681N	RESISTOR	680Ω,1/16W
R368	NRSA63J-681N	RESISTOR	680Ω,1/16W
R369	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R401	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R402	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R403	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R404	NRSA6AJ-393AW	RESISTOR	39kΩ,1/16W
R405	NRSA6AJ-912AW	RESISTOR	9.1kΩ,1/16W
R406	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R407	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R408	NRSA6AJ-181AW	RESISTOR	180Ω,1/16W
R409	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R410	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R411	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R412	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R422	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R423	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R425	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R426	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R427	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R429	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R430	NRSA6AJ-823AW	RESISTOR	82kΩ,1/16W
R432	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R433	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R434	NRSA6AJ-121AW	RESISTOR	120Ω,1/16W
R435	PESC1425-103JY	NEGA THERMISTOR	
R436	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R437	NRSA6AJ-121AW	RESISTOR	120Ω,1/16W
R438	PESC1425-103JY	NEGA THERMISTOR	
R439	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R440	NRSA6AJ-121AW	RESISTOR	120Ω,1/16W
R441	PESC1425-103JY	NEGA THERMISTOR	
R442	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R443	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R444	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R453	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R454	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R455	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R456	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R457	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R458	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R459	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R501	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R504	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R507	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R508	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R509	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R510	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R511	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R513	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R516	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R517	NRSA6AJ-391AW	RESISTOR	390Ω,1/16W
R518	NRSA6AJ-822AW	RESISTOR	8.2kΩ,1/16W
R519	NRSA6AJ-272AW	RESISTOR	2.7kΩ,1/16W
R520	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R521	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R522	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R523	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R525	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R526	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R527	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R529	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R540	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R551	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R564	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R565	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R566	NRSA6AJ-221AW	RESISTOR	220Ω,1/16W
R601	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R602	NRSA6AJ-272AW	RESISTOR	2.7kΩ,1/16W
R603	NRSA6AJ-122AW	RESISTOR	1.2kΩ,1/16W
R604	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R605	NRSA6AJ-471AW	RESISTOR	470Ω,1/16W
R606	NRSA6AJ-271AW	RESISTOR	270Ω,1/16W
R607	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R608	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R609	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R610	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R611	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R612	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R613	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R614	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R615	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R616	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R617	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R618	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R619	NRSA6AJ-271AW	RESISTOR	270Ω,1/16W
R620	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R621	NRSA6AJ-272AW	RESISTOR	2.7kΩ,1/16W
R625	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R626	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R627	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R628	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R629	NRSA6AJ-681AW	RESISTOR	680Ω,1/16W
R630	NRVA6AD-100AW	RESISTOR	10Ω,1/16W
R631	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R634	NRVA6AD-332AW	RESISTOR	3.3kΩ,1/16W
R635	NRSA6AJ-681AW	RESISTOR	680Ω,1/16W
R636	NRVA6AD-472AW	RESISTOR	4.7kΩ,1/16W
R638	NRSA6AJ-273AW	RESISTOR	27kΩ,1/16W
R639	NRVA6AD-182AW	RESISTOR	1.8kΩ,1/16W
R640	NRVA6AD-103AW	RESISTOR	10kΩ,1/16W
R641	NRSA6AJ-821AW	RESISTOR	820Ω,1/16W
R642	NRSA6AJ-224AW	RESISTOR	220kΩ,1/16W
R643	NRSA6AJ-680AW	RESISTOR	68Ω,1/16W
R645	NRVA6AD-152AW	RESISTOR	1.5kΩ,1/16W
R646	NRVA6AD-183AW	RESISTOR	18kΩ,1/16W
R647	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R650	NRSA6AJ-221AW	RESISTOR	220Ω,1/16W
R651	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R660	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R664	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R665	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R666	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R667	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R668	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R669	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R670	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R672	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R673	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R674	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R675	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R676	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R677	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R681	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R682	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R683	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R684	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R685	NRSA6AJ-682AW	RESISTOR	6.8kΩ,1/16W
R686	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R693	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R696	NRSA6AJ-332AW	RESISTOR	3.3kΩ,1/16W
R697	NRSA6AJ-154AW	RESISTOR	150kΩ,1/16W
R698	ERSL39J-221Y	RESISTOR	

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R699	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R713	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R714	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R715	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R716	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R717	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R718	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R719	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R720	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R721	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R722	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R723	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R724	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R725	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R726	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R727	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R728	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
RA101	PERE0560-102JY	NETWORK RESISTOR	1kΩ,1/16W
RA102	PERE0532-102JY	NETWROK RESISTOR	1kΩ,1/16W
RA103	PERE0560-103JY	NETWROK RESISTOR	10kΩ,1/16W
RA105	PERE0532-472JY	NETOWRK RESISTOR	4.7kΩ,1/16W
RA106	PERE0560-104JY	NETWORK RESISTOR	100kΩ,1/16W
RA108	PERE0560-473JY	NETWROK RESISTOR	47kΩ,1/16W
RA109	PERE0560-102JY	NETWORK RESISTOR	1kΩ,1/16W
RA110	PERE0560-102JY	NETWORK RESISTOR	1kΩ,1/16W
RA202	PERE0532-472JY	NETWORK RESISTOR	4.7kΩ,1/16W
RA203	PERE0560-473JY	NETWORK RESISTOR	47kΩ,1/16W
RA204	PERE0560-102JY	NETWORK RESISTOR	1kΩ,1/16W
RA206	PERE0560-102JY	NETWORK RESISTOR	1kΩ,1/16W
C101	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C102	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C103	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C106	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C108	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C110	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C111	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C121	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C122	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C123	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C124	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C201	NCB31EK-223A	CAPACITOR	0.022μF,25V
C202	NCB31EK-223A	CAPACITOR	0.022μF,25V
C203	NCB31EK-223A	CAPACITOR	0.022μF,25V
C204	NCB31EK-223A	CAPACITOR	0.022μF,25V
C205	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C206	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C209	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C210	NCT18CH-150A	CAPACITOR	15pF,50V
C211	NCT18CH-150A	CAPACITOR	15pF,50V
C212	NEE21CM-105RY	E CAPACITOR	1μF,16V
C215	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C216	NCBA1EK-682AW	CAPACITOR	0.0068μF,25V
C218	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C219	QCFA1CZ-105	CAPACITOR	1μF,16V
C220	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C221	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C222	NEE21CM-105RY	E CAPACITOR	1μF,16V
C223	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C252	NCT18CH-220A	CAPACITOR	22pF,50V
C253	NCSA1HJ-300AW	CAPACITOR	30pF,50V
C254	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C255	NCF31CZ-104A	CAPACITOR	0.1μF,16V

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
C256	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C257	NCT18CH-120A	CAPACITOR	12pF,50V
C258	NCT18CH-120A	CAPACITOR	12pF,50V
C301	NCBA1HK-152AW	CAPACITOR	0.0015μF,50V
C302	NCBA1HK-152AW	CAPACITOR	0.0015μF,50V
C303	NCBA1HK-152AW	CAPACITOR	0.0015μF,50V
C304	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C305	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C306	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C307	NCBA1CK-822AW	CAPACITOR	0.0082μF,16V
C308	NCBA1CK-822AW	CAPACITOR	0.0082μF,16V
C309	NCBA1CK-822AW	CAPACITOR	0.0082μF,16V
C310	NCT18CH-220A	CAPACITOR	22pF,50V
C311	NCF31CZ-473A	CAPACITOR	0.047μF,16V
C312	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C313	NEE21VM-104RY	E CAPACITOR	0.1μF,35V
C314	NCBA1EK-472AW	CAPACITOR	0.0047μF,25V
C315	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C317	NEE21CM-105RY	E CAPACITOR	1μF,16V
C318	NEE21CM-105RY	E CAPACITOR	1μF,16V
C320	NCBA1HK-222AW	CAPACITOR	0.0022μF,50V
C321	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C351	QCFA1CZ-105	CAPACITOR	1μF,16V
C352	QCFA1CZ-105	CAPACITOR	1μF,16V
C353	QCFA1CZ-105	CAPACITOR	1μF,16V
C354	NCB31EK-223A	CAPACITOR	0.022μF,25V
C355	NCB31EK-223A	CAPACITOR	0.022μF,25V
C356	NCB31EK-223A	CAPACITOR	0.022μF,25V
C357	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C358	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C359	NCB31EK-223A	CAPACITOR	0.022μF,25V
C360	NEE21CM-105RY	E CAPACITOR	1μF,16V
C361	NCSA1HJ-101AW	CAPACITOR	100pF,50V
C362	QCFA1CZ-105	CAPACITOR	1μF,16V
C363	NEE21CM-105RY	E CAPACITOR	1μF,16V
C401	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C402	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C403	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C404	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C405	NCT18CH-101A	CAPACITOR	100pF,50V
C406	NEE21VM-104RY	E CAPACITOR	0.1μF,35V
C407	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C408	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C409	NCT18CH-100A	CAPACITOR	10pF,50V
C410	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
C411	NEE21EM-474RY	E CAPACITOR	0.47μF,25V
C413	NCT18CH-100A	CAPACITOR	10pF,50V
C415	NCT18CH-100A	CAPACITOR	10pF,50V
C421	NEE21CM-105RY	E CAPACITOR	1μF,16V
C422	NCT18CH-180A	CAPACITOR	18pF,50V
C423	NCBA1EK-682AW	CAPACITOR	0.0068μF,25V
C424	NCT18CH-180A	CAPACITOR	18pF,50V
C425	NCBA1EK-682AW	CAPACITOR	0.0068μF,25V
C426	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C427	NCF31EZ-104A	CAPACITOR	0.1μF,25V
C428	NEE21AM-106RY	E CAPACITOR	10μF,10V
C429	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C430	NCF31EZ-104A	CAPACITOR	0.1μF,25V
C431	NEE21AM-106RY	E CAPACITOR	10μF,10V
C432	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C433	NCF31EZ-104A	CAPACITOR	0.1μF,25V
C434	NEE21AM-106RY	E CAPACITOR	10μF,10V

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
C435	NCT18CH-220A	CAPACITOR	22pF,50V
C436	NCBA1EK-682AW	CAPACITOR	0.0068μF,25V
C441	NCF31EZ-104A	CAPACITOR	0.1μF,25V
C442	NEE21AM-106RY	E CAPACITOR	10μF,10V
C443	NCF31EZ-104A	CAPACITOR	0.1μF,25V
C444	NEE21AM-106RY	E CAPACITOR	10μF,10V
C445	NCT06CH-330A	CAPACITOR	33pF,50V
C446	NCT06CH-330A	CAPACITOR	33pF,50V
C447	NCT06CH-330A	CAPACITOR	33pF,50V
C448	NCT06CH-330A	CAPACITOR	33pF,50V
C501	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C502	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C503	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C504	NEE21CM-105RY	E CAPACITOR	1μF,16V
C505	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C506	NEE21CM-105RY	E CAPACITOR	1μF,16V
C507	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C508	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C509	NEE21CM-105RY	E CAPACITOR	1μF,16V
C510	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C511	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C512	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C513	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C514	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C515	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C516	NEE21CM-105RY	E CAPACITOR	1μF,16V
C517	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C518	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C519	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C520	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C521	NEE21CM-105RY	E CAPACITOR	1μF,16V
C522	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C523	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C525	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C526	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C527	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C528	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C529	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C530	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C531	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C544	YU41415-J476XW	E CAPACITOR	47μF,6.3V
C545	YU41415-J476XW	E CAPACITOR	47μF,6.3V
C551	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C552	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C560	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C561	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C562	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C563	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C564	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C565	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C566	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C567	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C568	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C569	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C570	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C571	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C572	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C573	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C574	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C575	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C576	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C577	NCT18CH-100A	CAPACITOR	10pF,50V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C578	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C579	NCT18CH-180A	CAPACITOR	18pF,50V
C601	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C602	NCBA1HK-152AW	CAPACITOR	0.0015μF,50V
C603	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C604	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C605	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C607	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C608	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C609	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C610	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C611	NCSA1HJ-330AW	CAPACITOR	33pF,50V
C612	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C613	NCSA1HJ-330AW	CAPACITOR	33pF,50V
C614	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C615	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C616	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C617	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C618	NCBA1HK-122AW	CAPACITOR	0.0012μF,50V
C619	NCBA1HK-122AW	CAPACITOR	0.0012μF,50V
C620	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C621	NCBA1HK-681AW	CAPACITOR	680pF,50V
C622	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C623	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C624	NCT18CH-151A	CAPACITOR	150pF,50V
C625	NCT18CH-151A	CAPACITOR	150pF,50V
C627	NCSA1HJ-470AW	CAPACITOR	47pF,50V
C628	NEE21CM-105RY	E CAPACITOR	1μF,16V
C629	NEE21CM-105RY	E CAPACITOR	1μF,16V
C631	NCSA1HJ-101AW	CAPACITOR	100pF,50V
C632	NCSA1HJ-680AW	CAPACITOR	68pF,50V
C633	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C634	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C635	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C636	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C637	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C638	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C639	NCBA1EK-562AW	CAPACITOR	0.0056μF,25V
C640	NCBA1EK-562AW	CAPACITOR	0.0056μF,25V
C641	NCBA1EK-562AW	CAPACITOR	0.0056μF,25V
C642	NCBA1EK-562AW	CAPACITOR	0.0056μF,25V
C643	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C644	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C645	NCBA1HK-331AW	CAPACITOR	330pF,50V
C646	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C647	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C648	NCBA1HK-681AW	CAPACITOR	680pF,50V
C649	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C650	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C651	NCBA1HK-152AW	CAPACITOR	0.0015μF,50V
C652	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C653	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C654	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C655	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C656	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C657	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C658	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C659	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C660	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C661	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C662	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C663	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C664	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C668	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C671	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C672	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C675	NCBA1HK-152AW	CAPACITOR	0.0015μF,50V
C676	NCBA1HK-152AW	CAPACITOR	0.0015μF,50V
C681	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C682	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C683	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C684	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C685	NCBA1HK-222AW	CAPACITOR	0.0022μF,50V
C686	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C687	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C688	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C689	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C690	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C691	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C692	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C695	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
L101	YU41135-470	COIL	47μH
L201	YU41135-470	COIL	47μH
L202	YU41135-470	COIL	47μH
L203	YU41135-100KY	COIL	10μH
L251	YU41134-390J	COIL	39μH
L401	YU41135-100KY	COIL	10μH
L402	YU41135-100KY	COIL	10μH
L403	PELN1087-102Y	FERRATE BEADS	
L404	PELN1087-102Y	FERRATE BEADS	
L405	PELN1087-471Y	FERRATE BEADS	
L407	YU41135-100KY	COIL	10μH
L421	YU41135-100KY	COIL	10μH
L422	YU41135-100KY	COIL	10μH
L441	YU41135-100KY	COIL	10μH
L442	YU41135-100KY	COIL	10μH
L501	YU41135-470	COIL	47μH
L502	YU41135-470	COIL	47μH
L505	YU41135-470	COIL	47μH
L506	YU41135-470	COIL	47μH
L509	YU41135-470	COIL	47μH
L560	YU41135-470	COIL	47μH
L561	YU41135-470	COIL	47μH
L562	YU41135-470	COIL	47μH
L563	YU41135-470	COIL	47μH
L564	YU41135-470	COIL	47μH
L565	YU41135-470	COIL	47μH
L566	YU41135-470	COIL	47μH
L567	YU41135-470	COIL	47μH
L570	YU41134-1R5KY	COIL	1.5μH
L601	PELN1036-601Y	FERRATE BEADS	
L603	PELN0584-220JY	COIL	22μH
L604	PELN0584-220JY	COIL	22μH
L605	YU41135-470	COIL	47μH
L606	PELN0584-1R0JY	COIL	1μH
L607	PELN0584-1R0JY	COIL	1μH
L632	YU41135-470	COIL	47μH
L671	YU41135-470	COIL	47μH
L681	YU41135-470	COIL	47μH
L682	YU41135-470	COIL	47μH
L683	YU41135-470	COIL	47μH
CF101	PEVB0643-Z	CERAMIC FILTER	
LC301	PELN1178-222Z	NOISE FILTER	
LC302	PELN1178-222Z	NOISE FILTER	

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
LC303	PELN1178-222Z	NOISE FILTER
LC421	PELN1075-Y	LC FILTER
LC422	PELN1076-Y	LC FILTER
LC423	PELN1077-Y	LC FILTER
LC441	PELN1167-470Y	NOISE FILTER
LC442	PELN1167-470Y	NOISE FILTER
LC443	PELN1167-470Y	NOISE FILTER
LC444	PELN1167-470Y	NOISE FILTER
LC445	PELN1167-470Y	NOISE FILTER
LC601	PELN1178-222Z	NOISE FILTER
LC602	PELN1178-222Z	NOISE FILTER
X201	PEVB0608-R	CRYSTAL RESONATOR
X251	PEVB0663-P	CRYSTAL RESONATOR
X401	PEVB0612-Z	CRYSTAL RESONATOR
X441	PEVB0613-R	CRYSTAL RESONATOR
X442	PEVB0614-R	CRYSTAL RESONATOR
X560	PEVB0610-P	CRYSTAL RESONATOR
TH601	PESC1425-103JY	NEGA THERMISTOR
TH602	PESC1425-103JY	NEGA THERMISTOR
J201	YU40017-015-1	THIN WIRE
J202	YU40017-015-1	THIN WIRE
SD1	YQ44349-1-5	SHIELD CASE
CN101	PEMC1141-030-X	CONNECTOR
CN103	PEMC1141-026-X	CONNECTOR
CN201	PEMC1105-015-R	CONNECTOR
CN202	PEMC1106-008-P	CONNECTOR
CN203	PEMC1105-006-P	CONNECTOR
CN301	PEMC1105-018-R	CONNECTOR
CN302	PEMC1105-011-R	CONNECTOR
CN303	PEMC1105-011-R	CONNECTOR
CN501	PEMC1105-018-R	CONNECTOR
CN502	PEMC1141-030-X	CONNECTOR
CN503	PEMC1141-030-X	CONNECTOR
CN504	PEMC1125-005-R	CONNECTOR
CN601	PEMC1106-008-P	CONNECTOR

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MAIN2 BOARD ASSEMBLY <02>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
PW	YB10151C-01	MAIN2 BOARD ASSY
IC1	TC7S00F	IC
IC101	TA75S393F	IC
IC102	S-81335HG-KI-X	IC
IC103	PST9135N	IC
IC104	S-80720SN-DH-X	IC
IC106	S-81333HG-KF-X	IC
IC109	S-80725SN-DN-X	IC
IC110	PST9120N	IC
IC301	AK4503-VF-X	IC
IC302	NJM2100V	IC
IC303	NJM2100V	IC
IC304	NJM2100V	IC
IC305	NJM2100V	IC
IC401	LA7472M	IC
IC402	M5282FP-XE	IC
IC403	M5282FP-XE	IC
IC404	NJM2100V	IC
IC405	BA10324AF	IC
IC501	UPC2385GS	IC
IC702	MB3789PFV	IC
IC703	CXA1785AR	IC
IC704	CXD2411R	IC
IC706	TK11900M	IC
IC801	NN2037FAQ	IC
IC802	MN65761T	IC
IC803	MN5204-3	IC
IC804	UPD16510GR	IC
	or MN3112SA	IC
IC805	MN5206	IC
IC806	MN673211JFJ	IC
IC807	JCY0044A	IC
IC808	JCY0034	IC
IC809	MN1020701J2N	IC
IC810	MB88345PF	IC
IC811	SPC17A85ZVM	IC
IC812	SPC17A85ZVM	IC
IC813	NJM3416V	IC
IC814	TA75W01FU	IC
IC815	TA75W01FU	IC
IC816	TA75W01FU	IC
IC817	TC7W00FU	IC
IC818	X25040S-2.7-X	IC
IC819	TC7W08FU	IC
IC820	TA75W01FU	IC
IC821	PST9130N	IC
IC822	TC7S04F	IC
IC823	JCY0043A	IC
IC824	JCY0057	IC
IC825	ZA4038	IC
IC826	S-81230SG-QB-X	IC
IC828	TC7SH04FU	IC
Q1	2SC4617(RS)	TRANSISTOR
Q101	2SJ203	FE TRANSISTOR
Q102	2SK2158	FE TRANSISTOR
Q103	2SK1581	FE TRANSISTOR
Q104	2SK1133	FE TRANSISTOR
Q105	2SK2158	FE TRANSISTOR
Q106	DTA144EE	TRANSISTOR
Q107	2SJ381	FE TRANSISTOR
Q109	2SK2158	FE TRANSISTOR
Q110	2SK1133	FE TRANSISTOR
Q111	DTC144EE	TRANSISTOR
Q112	2SJ420	TRANSISTOR
	or 2SJ419	FE TRANSISTOR
Q113	2SK2158	TRANSISTOR
Q114	DTC144EE	TRANSISTOR
Q115	2SK2158	FE TRANSISTOR
Q116	DTC144EE	TRANSISTOR
Q117	2SC4617(QRS)	TRANSISTOR
Q118	2SK1133	FE TRANSISTOR
Q121	DTA114EE	TRANSISTOR
Q122	2SK1133	FE TRANSISTOR
Q123	2SK2158	FE TRANSISTOR
Q124	2SK1133	FE TRANSISTOR
Q301	2SK662	FE TRANSISTOR
Q302	2SK662	FE TRANSISTOR
Q403	2SC4617(QRS)	TRANSISTOR
Q404	2SA1774(QRS)	TRANSISTOR
Q405	2SA1774(QRS)	TRANSISTOR
Q406	UMW1N	PAIR TRANSISTOR

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	Q407	DTC144EE	TRANSISTOR
	Q409	DTC144EE	TRANSISTOR
	Q410	DTA143EE	TRANSISTOR
	Q411	DTC144EE	TRANSISTOR
	Q412	DTC144EE	TRANSISTOR
	Q413	2SA1774(QRS)	TRANSISTOR
	Q414	DTA144EE	TRANSISTOR
	Q415	DTC144EE	TRANSISTOR
	Q416	2SC4617(QRS)	TRANSISTOR
	Q417	DTC144EE	TRANSISTOR
	Q418	DTC144EE	TRANSISTOR
	Q419	DTA144EE	TRANSISTOR
	Q420	DTC144EE	TRANSISTOR
	Q421	DTA124EE	TRANSISTOR
	Q422	DTC124TE	TRANSISTOR
	Q423	DTC124TE	TRANSISTOR
	Q424	2SA1774(QRS)	TRANSISTOR
	Q425	2SA1774(QRS)	TRANSISTOR
	Q426	2SA1774(QRS)	TRANSISTOR
	Q501	DTC144EE	TRANSISTOR
	Q504	UMZ1N	TRANSISTOR
	Q505	2SC4617(RS)	TRANSISTOR
	Q506	2SA1774(RS)	TRANSISTOR
	Q507	2SA1774(RS)	TRANSISTOR
	Q508	2SA1774(RS)	TRANSISTOR
	Q509	DTC144EE	TRANSISTOR
	Q510	DTC144EE	TRANSISTOR
	Q701	UMX1N	PAIR TRANSISTOR
	Q702	2SK1254S	TRANSISTOR
	Q801	2SC4655	TRANSISTOR
	Q802	2SA1790	TRANSISTOR
	Q803	XP5501	C.W TRANSISTOR
	Q804	2SC4655	TRANSISTOR
	Q805	XP4601	TRANSISTOR
	Q808	2SC4655	TRANSISTOR
	Q809	2SA1790	TRANSISTOR
	Q810	PH106	PH TRANSISTOR
	Q811	XP5501	C.W TRANSISTOR
	Q812	2SA1774(RS)	TRANSISTOR
	D1	SB007-03Q-X	SB DIODE
⚠	D101	MA741WA	SB DIODE
	D102	DAN222	DIODE
	D103	DAN222	DIODE
	D109	SB007-03Q-X	SB DIODE
	D301	DAN222	DIODE
	D401	DAN222	DIODE
	D403	DAN222	DIODE
	D404	DAN222	DIODE
	D405	DAN222	DIODE
	D406	DAP222	DIODE
	D407	DAN222	DIODE
	D505	MA133	DIODE
	D702	MA111	DIODE
	D703	MA365	DIODE
	D704	RD4.7S(B2)	ZENER DIODE
	D705	RD2.7S(B2)	ZENER DIODE
	D801	1SS355	DIODE
	D802	MA143	DIODE
	D803	MA141WK	DIODE
	D804	MA143	DIODE
	D805	MA377	V DIODE
	D806	MA377	V DIODE

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	D807	IMN10	DIODE	
	D808	SB007W03Q	SB DIODE	
	D809	MA111	DIODE	
	D814	MA376	V DIODE	
	D815	MA376	V DIODE	
	D816	1SS355	DIODE	
	R1	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
	R2	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
	R4	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
	R5	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R6	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
	R7	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
	R8	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R101	NRSA6AJ-224AW	RESISTOR	220kΩ,1/16W
	R102	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
⚠	R103	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R105	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
⚠	R106	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R107	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
	R108	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
	R109	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
	R110	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
	R111	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
	R112	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
	R113	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
	R114	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
	R115	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
	R116	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
	R117	NRVA63D-473N	MF RESISTOR	47kΩ,1/16W
	R118	NRVA63D-104N	MF RESISTOR	100kΩ,1/16W
	R119	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
	R120	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
	R121	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
	R122	NRVA63D-393N	MF RESISTOR	39kΩ,1/16W
	R123	NRVA63D-332N	MF RESISTOR	3.3kΩ,1/16W
	R124	NRVA63D-393N	RESISTOR	39kΩ,1/16W
	R125	NRSA6AJ-225AW	RESISTOR	2.2MΩ,1/16W
	R128	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R131	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
	R132	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
	R301	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R302	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R303	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
	R304	NRSA6AJ-151AW	RESISTOR	150Ω,1/16W
	R305	NRSA6AJ-151AW	RESISTOR	150Ω,1/16W
	R306	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R307	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R308	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
	R309	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
	R310	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R311	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R312	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
	R313	NRSA6AJ-151AW	RESISTOR	150Ω,1/16W
	R314	NRSA6AJ-151AW	RESISTOR	150Ω,1/16W
	R315	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R316	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R317	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
	R318	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
	R319	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
	R320	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
	R321	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
	R322	NRSA6AJ-123AW	RESISTOR	12kΩ,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R323	NRSA6AJ-123AW	RESISTOR	12kΩ,1/16W
R324	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R325	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R326	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R327	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R330	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R331	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R332	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R333	NRSA6AJ-123AW	RESISTOR	12kΩ,1/16W
R334	NRSA6AJ-123AW	RESISTOR	12kΩ,1/16W
R335	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R336	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R337	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R338	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R341	NRSA6AJ-100AW	RESISTOR	10Ω,1/16W
R343	NRSA6AJ-100AW	RESISTOR	10Ω,1/16W
R344	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R345	NRSA6AJ-225AW	RESISTOR	2.2MΩ,1/16W
R346	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R347	NRSA6AJ-225AW	RESISTOR	2.2MΩ,1/16W
R348	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R349	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R401	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R402	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R403	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R404	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R405	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R408	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R409	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R410	NRSA6AJ-182AW	RESISTOR	1.8kΩ,1/16W
R411	NRSA6AJ-182AW	RESISTOR	1.8kΩ,1/16W
R412	NRSA6AJ-822AW	RESISTOR	8.2kΩ,1/16W
R413	NRSA6AJ-822AW	RESISTOR	8.2kΩ,1/16W
R414	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R415	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R418	NRSA6AJ-124AW	RESISTOR	120kΩ,1/16W
R419	NRSA6AJ-124AW	RESISTOR	120kΩ,1/16W
R420	NRSA6AJ-221AW	RESISTOR	220Ω,1/16W
R421	NRSA6AJ-221AW	RESISTOR	220Ω,1/16W
R422	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R423	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R424	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R425	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R426	NRSA6AJ-563AW	RESISTOR	56kΩ,1/16W
R427	NRSA6AJ-563AW	RESISTOR	56kΩ,1/16W
R428	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R429	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R430	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R431	NRSA6AJ-393AW	RESISTOR	39kΩ,1/16W
R432	NRSA6AJ-154AW	RESISTOR	150kΩ,1/16W
R433	NRSA6AJ-154AW	RESISTOR	150kΩ,1/16W
R434	NRSA6AJ-154AW	RESISTOR	150kΩ,1/16W
R435	NRSA6AJ-224AW	RESISTOR	220kΩ,1/16W
R436	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R437	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R438	NRSA6AJ-100AW	RESISTOR	10Ω,1/16W
R440	NRSA6AJ-100AW	RESISTOR	10Ω,1/16W
R442	NRSA6AJ-100AW	RESISTOR	10Ω,1/16W
R444	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R445	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R446	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R447	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R448	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R449	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R450	NRSA6AJ-474AW	RESISTOR	470kΩ,1/16W
R451	NRSA6AJ-474AW	RESISTOR	470kΩ,1/16W
R452	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R453	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R454	NRSA6AJ-682AW	RESISTOR	6.8kΩ,1/16W
R455	NRSA6AJ-682AW	RESISTOR	6.8kΩ,1/16W
R456	NRSA6AJ-682AW	RESISTOR	6.8kΩ,1/16W
R457	NRSA6AJ-682AW	RESISTOR	6.8kΩ,1/16W
R460	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R461	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R462	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R463	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R464	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R465	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R466	NRSA6AJ-564AW	RESISTOR	560kΩ,1/16W
R467	NRSA6AJ-564AW	RESISTOR	560kΩ,1/16W
R468	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R469	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R470	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R471	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R472	NRSA6AJ-332AW	RESISTOR	3.3kΩ,1/16W
R473	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R474	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R475	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R476	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R477	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R478	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R479	NRVA63D-183N	MF RESISTOR	18kΩ,1/16W
R480	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R483	NRSA6AJ-224AW	RESISTOR	220kΩ,1/16W
R485	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R486	NRSA6AJ-273AW	RESISTOR	27kΩ,1/16W
R487	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R488	NRSA6AJ-394AW	RESISTOR	390kΩ,1/16W
R489	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R490	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R491	NRSA6AJ-224AW	RESISTOR	220kΩ,1/16W
R492	NRSA6AJ-155AW	RESISTOR	1.5MΩ,1/16W
R493	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R494	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R495	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R496	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R497	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R498	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R499	NRSA63J-470N	RESISTOR	47Ω,1/16W
R501	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R502	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R503	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R504	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R505	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R506	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R507	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R508	NRSA6AJ-682AW	RESISTOR	6.8kΩ,1/16W
R511	NRSA6AJ-821AW	RESISTOR	820Ω,1/16W
R512	NRSA6AJ-821AW	RESISTOR	820Ω,1/16W
R513	NRSA63J-100N	RESISTOR	10Ω,1/16W
R514	NRSA63J-100N	RESISTOR	10Ω,1/16W
R515	NRD187J-680N	MLF RESISTOR	68Ω,1/8W
R516	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R517	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R518	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R519	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R520	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R521	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R522	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R523	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R524	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R527	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R528	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R529	NRSA6AJ-822AW	RESISTOR	8.2kΩ,1/16W
R530	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R531	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R532	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R533	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R534	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R601	NRSA63J-220N	RESISTOR	22Ω,1/16W
R602	NRSA63J-220N	RESISTOR	22Ω,1/16W
R603	NRSA63J-220N	RESISTOR	22Ω,1/16W
R604	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R605	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R606	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R607	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R608	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R609	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R610	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R611	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R612	NRSA63J-180N	RESISTOR	18Ω,1/16W
R613	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R614	NRSA6AJ-154AW	RESISTOR	150kΩ,1/16W
R615	NRSA6AJ-184AW	RESISTOR	180kΩ,1/16W
R616	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R617	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R618	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R619	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R620	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R622	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R627	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R628	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R631	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R632	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R633	NRSA6AJ-183AW	RESISTOR	18kΩ,1/16W
R635	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R641	NRSA6AJ-564AW	RESISTOR	560kΩ,1/16W
R644	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R645	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R646	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R649	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R650	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R651	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R669	NRSA6AJ-470AW	RESISTOR	47Ω,1/16W
R670	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R671	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R672	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R673	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R674	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R675	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R676	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R677	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R678	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R679	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R680	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R681	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R682	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R683	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R684	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R685	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R709	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R710	NRVA63D-273N	MF RESISTOR	27kΩ,1/16W
R712	NRSA6AJ-334AW	RESISTOR	330kΩ,1/16W
R713	NRSA6AJ-474AW	RESISTOR	470kΩ,1/16W
R714	NRVA63D-473N	MF RESISTOR	47kΩ,1/16W
R716	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R717	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R718	NRSA6AJ-822AW	RESISTOR	8.2kΩ,1/16W
R719	NRVA63D-303N	MF RESISTOR	30kΩ,1/16W
R720	NRVA63D-124N	MF RESISTOR	120kΩ,1/16W
R721	NRVA63D-224N	MF RESISTOR	220kΩ,1/16W
R722	NRVA63D-134N	MF RESISTOR	130kΩ,1/16W
R723	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R724	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
R725	NRVA63D-151N	MF RESISTOR	150Ω,1/16W
R726	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R727	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R728	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R729	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R730	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R731	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R732	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R733	NRSA6AJ-393AW	RESISTOR	39kΩ,1/16W
R734	NRSA6AJ-563AW	RESISTOR	56kΩ,1/16W
R736	NRVA63D-273N	MF RESISTOR	27kΩ,1/16W
R737	NRVA63D-243N	RESISTOR	24kΩ,1/16W
R739	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
R740	NRVA63D-273N	MF RESISTOR	27kΩ,1/16W
R741	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R742	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R743	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R744	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R745	NRSA6AJ-563AW	RESISTOR	56kΩ,1/16W
R746	NRSA6AJ-363AW	RESISTOR	36kΩ,1/16W
R747	NRSA6AJ-363AW	RESISTOR	36kΩ,1/16W
R748	NRSA6AJ-273AW	RESISTOR	27kΩ,1/16W
R749	NRSA6AJ-623AW	RESISTOR	62kΩ,1/16W
R750	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R751	NRSA6AJ-822AW	RESISTOR	8.2kΩ,1/16W
R756	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R757	NRSA6AJ-332AW	RESISTOR	3.3kΩ,1/16W
R758	NRSA6AJ-471AW	RESISTOR	470Ω,1/16W
R759	NRSA6AJ-221AW	RESISTOR	220Ω,1/16W
R760	NRSA6AJ-393AW	RESISTOR	39kΩ,1/16W
R761	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R763	NRVA63D-183N	MF RESISTOR	18kΩ,1/16W
R764	NRSA6AJ-564AW	RESISTOR	560kΩ,1/16W
R765	NRSA6AJ-823AW	RESISTOR	82kΩ,1/16W
R766	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R767	NRSA6AJ-271AW	RESISTOR	270Ω,1/16W
R768	NRSA6AJ-823AW	RESISTOR	82kΩ,1/16W
R769	NRSA6AJ-823AW	RESISTOR	82kΩ,1/16W
R770	NRSA6AJ-823AW	RESISTOR	82kΩ,1/16W
R771	NRSA6AJ-124AW	RESISTOR	120kΩ,1/16W
R772	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R774	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R775	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R776	NRVA63D-472N	MF RESISTOR	4.7kΩ,1/16W

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
R777	NRVA63D-472N	MF RESISTOR	4.7kΩ,1/16W
R778	NRSA6AJ-334AW	RESISTOR	330kΩ,1/16W
R779	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R780	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R781	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R782	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R783	NRSA6AJ-393AW	RESISTOR	39kΩ,1/16W
R784	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R785	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R786	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R791	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R792	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R793	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R794	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R796	NRVA63D-823N	MF RESISTOR	82kΩ,1/16W
R797	NRVA63D-333N	MF RESISTOR	33kΩ,1/16W
R798	NRVA63D-471N	RESISTOR	470Ω,1/16W
R801	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R802	NRSA6AJ-681AW	RESISTOR	680Ω,1/16W
R803	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R804	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R805	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R806	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R807	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R810	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R811	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R812	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R813	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R814	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R815	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R816	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R817	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R818	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R819	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R820	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R821	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R825	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R826	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R827	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R828	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R829	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R830	NRSA6AJ-123AW	RESISTOR	12kΩ,1/16W
R831	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R832	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R833	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R834	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R835	NRSA6AJ-822AW	RESISTOR	8.2kΩ,1/16W
R836	NRSA6AJ-560AW	RESISTOR	56Ω,1/16W
R837	NRSA6AJ-560AW	RESISTOR	56Ω,1/16W
R839	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R840	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R841	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R842	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R843	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R844	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R848	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R851	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R852	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R853	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R854	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R856	NRSA6AJ-182AW	RESISTOR	1.8kΩ,1/16W
R857	NRSA6AJ-152AW	RESISTOR	1.5kΩ,1/16W
R858	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R859	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R860	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R862	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R863	NRSA6AJ-182AW	RESISTOR	1.8kΩ,1/16W
R865	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R866	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R867	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R868	NRSA6AJ-101AW	RESISTOR	100Ω,1/16W
R869	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R870	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R871	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R872	NRSA6AJ-182AW	RESISTOR	1.8kΩ,1/16W
R873	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R874	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R875	NRSA6AJ-221AW	RESISTOR	220Ω,1/16W
R876	NRSA6AJ-221AW	RESISTOR	220Ω,1/16W
R877	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R878	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R879	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R880	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R881	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R882	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R883	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R884	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R885	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R886	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R887	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R888	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R889	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R890	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R891	NRSA6AJ-222AW	RESISTOR	2.2kΩ,1/16W
R892	NRSA6AJ-225AW	RESISTOR	2.2MΩ,1/16W
R894	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R895	NRSA6AJ-182AW	RESISTOR	1.8kΩ,1/16W
R896	NRSA6AJ-271AW	RESISTOR	270Ω,1/16W
R897	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R899	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R900	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R902	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R904	NRSA6AJ-151AW	RESISTOR	150Ω,1/16W
R905	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R906	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R907	NRSA6AJ-393AW	RESISTOR	39kΩ,1/16W
R908	NRSA6AJ-272AW	RESISTOR	2.7kΩ,1/16W
R909	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R910	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R912	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R913	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R914	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R915	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R916	NRSA6AJ-432AW	RESISTOR	4.3kΩ,1/16W
R917	NRSA6AJ-751AW	RESISTOR	750Ω,1/16W
R918	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R919	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R920	NRSA6AJ-104AW	RESISTOR	100kΩ,1/16W
R921	NRSA6AJ-912AW	RESISTOR	9.1kΩ,1/16W
R922	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R923	NRSA6AJ-105AW	RESISTOR	1MΩ,1/16W
R924	NRSA6AJ-823AW	RESISTOR	82kΩ,1/16W
R925	NRSA6AJ-184AW	RESISTOR	180kΩ,1/16W
R926	NRSA6AJ-824AW	RESISTOR	820kΩ,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R927	NRSA63J-5R1N	RESISTOR	5.1Ω,1/16W
R928	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R929	NRSA6AJ-153AW	RESISTOR	15kΩ,1/16W
R930	NRSA63J-5R1N	RESISTOR	5.1Ω,1/16W
R933	NRSA63J-4R7N	RESISTOR	4.7Ω,1/16W
R936	NRSA63J-4R7N	RESISTOR	4.7Ω,1/16W
R940	NRSA6AJ-682AW	RESISTOR	6.8kΩ,1/16W
R941	NRSA6AJ-392AW	RESISTOR	3.9kΩ,1/16W
R942	NRSA6AJ-471AW	RESISTOR	470Ω,1/16W
R943	NRSA6AJ-393AW	RESISTOR	39kΩ,1/16W
R945	NRSA6AJ-331AW	RESISTOR	330Ω,1/16W
R946	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R947	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R948	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R950	NRSA6AJ-472AW	RESISTOR	4.7kΩ,1/16W
R951	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R953	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R954	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R955	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R956	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R957	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R958	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R959	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R963	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R964	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R966	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R968	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R971	NRSA6AJ-392AW	RESISTOR	3.9kΩ,1/16W
R973	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R974	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R975	NRSA6AJ-103AW	RESISTOR	10kΩ,1/16W
R977	NRSA6AJ-102AW	RESISTOR	1kΩ,1/16W
R979	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R982	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R983	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R985	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R987	NRSA6AJ-562AW	RESISTOR	5.6kΩ,1/16W
R988	NRSA6AJ-333AW	RESISTOR	33kΩ,1/16W
R989	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R990	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R991	NRSA6AJ-223AW	RESISTOR	22kΩ,1/16W
R992	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R993	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
R996	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R998	NRSA6AJ-0R0AW	RESISTOR	0Ω,1/16W
R999	NRSA6AJ-473AW	RESISTOR	47kΩ,1/16W
C1	NCBA1HK-222AW	CAPACITOR	0.0022μF,50V
C2	NFV41HJ-102X	MPPS CAPACITOR	0.001μF,16V
C3	NFV41HJ-221X	MPPS CAPACITOR	220PF,16V
C4	NFV41HJ-101X	MPPS CAPACITOR	100PF,16V
C5	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C6	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C7	NCT06CH-820A	CAPACITOR	82pF,50V
C101	QCFA1CZ-105	CAPACITOR	1μF,16V
C102	NEE20JM-107RZ	E CAPACITOR	100μF,6.3V
C103	NEE21CM-106RY	E CAPACITOR	10μF,16V
C105	NEE20JM-107RZ	E CAPACITOR	100μF,6.3V
C106	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C108	NEE21CM-106RY	E CAPACITOR	10μF,16V
C109	NCB31CK-104A	CAPACITOR	0.1μF,16V
C110	NCB31CK-473A	CAPACITOR	0.047μF,16V
C111	NEE21AM-686RZ	E CAPACITOR	68μF,10V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C112	NEE21AM-686RZ	E CAPACITOR	68μF,10V
C115	QCFA1CZ-105	CAPACITOR	1μF,16V
C116	QCYA1EK-104	CAPACITOR	0.1μF,25V
C117	QCYA1EK-104	CAPACITOR	0.1μF,25V
C118	NCB31CK-104A	CAPACITOR	0.1μF,16V
C119	NCB31CK-104A	CAPACITOR	0.1μF,16V
C120	QCFA1CZ-105	CAPACITOR	1μF,16V
C121	NEE21AM-106RY	E CAPACITOR	10μF,10V
C122	NCB31CK-104A	CAPACITOR	0.1μF,16V
C123	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C124	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C125	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C126	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C127	NEE21CM-106RY	E CAPACITOR	10μF,16V
C129	QCFA1EZ-224	CAPACITOR	0.22μF,25V
C130	QCFA1EZ-224	CAPACITOR	0.22μF,25V
C131	QCFA1CZ-105	CAPACITOR	1μF,16V
C132	QCFA1CZ-105	CAPACITOR	1μF,16V
C141	QCFA1CZ-105	CAPACITOR	1μF,16V
C302	NEE20GM-106RY	E CAPACITOR	10μF,4.0V
C303	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C304	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C305	NCB31HK-152A	CAPACITOR	0.0015μF,50V
C307	NEE20GM-106RY	E CAPACITOR	10μF,4.0V
C308	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C309	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C310	NCB31HK-152A	CAPACITOR	0.0015μF,50V
C311	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C312	NEE20GM-106RY	E CAPACITOR	10μF,4.0V
C313	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C314	NCSA1EJ-221AW	CAPACITOR	220pF,25V
C315	NCSA1EJ-221AW	CAPACITOR	220pF,25V
C316	NCB31HK-152A	CAPACITOR	0.0015μF,50V
C317	NCSA1EJ-221AW	CAPACITOR	220pF,25V
C320	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C321	NEE20GM-106RY	E CAPACITOR	10μF,4.0V
C322	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C323	NCSA1EJ-221AW	CAPACITOR	220pF,25V
C324	NCSA1EJ-221AW	CAPACITOR	220pF,25V
C325	NCB31HK-152A	CAPACITOR	0.0015μF,50V
C326	NCSA1EJ-221AW	CAPACITOR	220pF,25V
C329	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C330	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C331	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C332	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C333	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C334	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C335	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C336	NCB31HK-332A	CAPACITOR	0.0033μF,50V
C337	NCB31HK-332A	CAPACITOR	0.0033μF,50V
C401	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C402	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C403	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C404	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C405	QCYA1EK-104	CAPACITOR	0.1μF,25V
C406	QCYA1EK-104	CAPACITOR	0.1μF,25V
C408	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C409	QCYA1EK-473	CAPACITOR	0.047μF,25V
C410	QCYA1EK-473	CAPACITOR	0.047μF,25V
C411	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
C412	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
C413	NCB31HK-682A	CAPACITOR	0.0068μF,50V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C414	NCB31HK-682A	CAPACITOR	0.0068μF,50V
C415	NCB31CK-473A	CAPACITOR	0.047μF,16V
C416	NCB31CK-473A	CAPACITOR	0.047μF,16V
C417	QCYA1EK-104	CAPACITOR	0.1μF,25V
C418	QCYA1EK-104	CAPACITOR	0.1μF,25V
C419	QCYA1EK-104	CAPACITOR	0.1μF,25V
C420	QCYA1EK-104	CAPACITOR	0.1μF,25V
C421	NCS31HJ-561A	CAPACITOR	560pF,50V
C422	NCS31HJ-561A	CAPACITOR	560pF,50V
C423	QCYA1CK-124	CAPACITOR	0.12μF,16V
C424	QCYA1CK-124	CAPACITOR	0.12μF,16V
C427	QCYA1AK-105	CAPACITOR	1μF,10V
C428	QCYA1AK-105	CAPACITOR	1μF,10V
C429	QCYA1AK-105	CAPACITOR	1μF,10V
C430	QCYA1AK-105	CAPACITOR	1μF,10V
C431	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C432	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C433	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C434	NEE21AM-476RZ	E CAPACITOR	47μF,10V
C435	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C436	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C437	NCB31EK-223A	CAPACITOR	0.022μF,25V
C438	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C439	NEE21AM-476RZ	E CAPACITOR	47μF,10V
C440	NEE21AM-476RZ	E CAPACITOR	47μF,10V
C441	QCFA1CZ-105	CAPACITOR	1μF,16V
C442	QCFA1CZ-105	CAPACITOR	1μF,16V
C443	QCYA1EK-333	CAPACITOR	0.033μF,25V
C444	QCYA1EK-333	CAPACITOR	0.033μF,25V
C445	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C446	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C447	QCYA1AK-105	CAPACITOR	1μF,10V
C448	QCYA1AK-105	CAPACITOR	1μF,10V
C449	QCYA1AK-105	CAPACITOR	1μF,10V
C450	QCYA1AK-105	CAPACITOR	1μF,10V
C451	QCYA1AK-105	CAPACITOR	1μF,10V
C452	QCYA1AK-105	CAPACITOR	1μF,10V
C453	QCYA1AK-105	CAPACITOR	1μF,10V
C454	NEE21AM-476RZ	E CAPACITOR	47μF,10V
C457	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C458	YU41415-J106AW	E CAPACITOR	10μF,6.3V
C459	QCFA1CZ-105	CAPACITOR	1μF,16V
C460	QCFA1CZ-105	CAPACITOR	1μF,16V
C461	NEE21AM-476RZ	E CAPACITOR	47μF,10V
C462	NCBA1HK-332AW	CAPACITOR	0.0033μF,50V
C463	NCBA1HK-332AW	CAPACITOR	0.0033μF,50V
C464	NEE21AM-476RZ	E CAPACITOR	47μF,10V
C465	NCBA1EK-472AW	CAPACITOR	0.0047μF,25V
C466	NCBA1EK-472AW	CAPACITOR	0.0047μF,25V
C468	QCFA1CZ-474	CAPACITOR	0.47μF,16V
C469	NCSA1HJ-470AW	CAPACITOR	47pF,50V
C470	QCYA1AK-105	CAPACITOR	1μF,10V
C471	QCYA1EK-104	CAPACITOR	0.1μF,25V
C472	NEE21AM-106RY	E CAPACITOR	10μF,10V
C473	NEE21AM-106RY	E CAPACITOR	10μF,10V
C474	QCYA1EK-104	CAPACITOR	0.1μF,25V
C475	QCYA1AK-105	CAPACITOR	1μF,10V
C476	QCYA1AK-105	CAPACITOR	1μF,10V
C477	QCYA1EK-104	CAPACITOR	0.1μF,25V
C478	NCBA1HK-122AW	CAPACITOR	0.0012μF,50V
C479	NCBA1HK-122AW	CAPACITOR	0.0012μF,50V
C480	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C481	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C482	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C483	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C501	NEE21DM-474RY	E CAPACITOR	0.47μF,20V
C502	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C503	NCSA1HJ-820AW	CAPACITOR	82pF,50V
C504	NEE20JM-475RY	E CAPACITOR	4.7μF,6.3V
C505	NEE20JM-475RY	E CAPACITOR	4.7μF,6.3V
C506	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C507	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C508	NCS31HJ-8R0A	CAPACITOR	8pF,50V
C511	QER40GM-477	E CAPACITOR	470μF,4.0V
C512	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C513	YU41415-G476CW	T CAPACITOR	47μF,4.0V
C514	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C515	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C516	NEE20JM-475RY	E CAPACITOR	4.7μF,6.3V
C517	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C518	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C519	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C520	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C521	YU41415-J476XW	E CAPACITOR	47μF,6.3V
C522	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C524	NCSA1HJ-6R0AW	CAPACITOR	6pF,50V
C525	NCSA1HJ-220AW	CAPACITOR	22pF,50V
C526	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C527	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C528	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C529	YU41415-J476XW	E CAPACITOR	47μF,6.3V
C706	NCT18CH-330A	CAPACITOR	33pF,50V
C707	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C708	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C709	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C710	QCTA1CH-222	CAPACITOR	0.0022μF,16V
C711	NEE20GM-106RY	E CAPACITOR	10μF,4.0V
C712	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C713	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C714	NEE21CM-225RY	E CAPACITOR	2.2μF,16V
C715	YU41970-C336CW	T CAPACITOR	0.0C3μF
C716	NEE20JM-225RY	E CAPACITOR	2.2μF,6.3V
C717	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C718	NEE21AM-106RY	E CAPACITOR	10μF,10V
C719	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C720	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C721	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C722	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C723	QCFA1CZ-105	CAPACITOR	1μF,16V
C724	QCFA1CZ-105	CAPACITOR	1μF,16V
C725	QCFA1CZ-105	CAPACITOR	1μF,16V
C726	YU41970-D225AW	T CAPACITOR	0.00D2μF
C727	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C728	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C729	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C730	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C731	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C732	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C733	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C734	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C735	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C736	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C737	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C738	NCBA1CK-103AW	CAPACITOR	0.01μF,16V

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
C739	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C740	NCBA1EK-682AW	CAPACITOR	0.0068μF,25V
C741	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C742	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C743	QCFA1CZ-105	CAPACITOR	1μF,16V
C744	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C745	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C746	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C747	QCFA1CZ-225	CAPACITOR	2.2μF,16V
C748	NCBA1HK-332AW	CAPACITOR	0.0033μF,50V
C749	NCT18CH-220A	CAPACITOR	22pF,50V
C750	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C751	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C752	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C753	YU41970-D225AW	CAPACITOR	0.00D2μF
C754	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C755	YU41970-D225AW	CAPACITOR	0.00D2μF
C756	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C757	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C759	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C801	NCB31EK-103A	CAPACITOR	0.01μF,25V
C802	NEE21EM-105RY	E CAPACITOR	1μF,25V
C803	QCYA1AK-105	CAPACITOR	1μF,10V
C804	NCB31EK-103A	CAPACITOR	0.01μF,25V
C805	NEE21EM-105RY	E CAPACITOR	1μF,25V
C806	QCYA1AK-105	CAPACITOR	1μF,10V
C807	NCT18CH-180A	CAPACITOR	18pF,50V
C808	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C809	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C810	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C811	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C812	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C813	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C814	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C815	NCFA1CZ-473AW	CAPACITOR	0.047μF,16V
C816	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C817	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C818	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C819	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C820	QCYA1EK-104	CAPACITOR	0.1μF,25V
C821	QCYA1EK-104	CAPACITOR	0.1μF,25V
C822	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C823	QCYA1EK-104	CAPACITOR	0.1μF,25V
C824	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C825	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C826	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C827	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C828	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C829	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C830	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C831	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C832	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C833	NEE21CM-106RY	E CAPACITOR	10μF,16V
C834	NEE21CM-106RY	E CAPACITOR	10μF,16V
C835	NEE41DM-105RY	E CAPACITOR	1μF,20V
C838	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C839	QCYA1AK-105	CAPACITOR	1μF,10V
C840	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C841	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C842	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
C843	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C844	QCYA1EK-104	CAPACITOR	0.1μF,25V
C845	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C846	NCFA1CZ-473AW	CAPACITOR	0.047μF,16V
C847	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C848	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C849	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C850	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C851	NCFA1CZ-473AW	CAPACITOR	0.047μF,16V
C852	NEE21CM-106RY	E CAPACITOR	10μF,16V
C853	NEE41DM-105RY	E CAPACITOR	1μF,20V
C854	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C855	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C856	NCB31CK-104A	CAPACITOR	0.1μF,16V
C857	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C858	NCB31CK-104A	CAPACITOR	0.1μF,16V
C860	QCYA1EK-104	CAPACITOR	0.1μF,25V
C864	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C865	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C866	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C867	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C868	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C869	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C870	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C871	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C872	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C873	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C874	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C876	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C877	NCB31EK-103A	CAPACITOR	0.01μF,25V
C878	NCT08CH-2R0A	CAPACITOR	2pF,50V
C880	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C881	NCB31EK-103A	CAPACITOR	0.01μF,25V
C885	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C886	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C887	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C888	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C889	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C890	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C891	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C892	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C893	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C894	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C895	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C896	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C897	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C900	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C901	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C902	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C903	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C904	NCFA1EZ-223AW	CAPACITOR	0.022μF,25V
C905	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C906	NCFA1EZ-223AW	CAPACITOR	0.022μF,25V
C907	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C908	NEE40JM-475RY	E CAPACITOR	4.7μF,6.3V
C909	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C910	NEE21CM-106RY	E CAPACITOR	10μF,16V
C911	NCFA1CZ-473AW	CAPACITOR	0.047μF,16V
C912	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C913	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C914	QCY81CK-105	CAPACITOR	1μF,16V
C916	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C918	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C920	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C921	QCFA1CZ-105	CAPACITOR	1μF,16V
C922	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C923	QCYA1EK-104	CAPACITOR	0.1μF,25V
C924	NCB31EK-103A	CAPACITOR	0.01μF,25V
C925	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C926	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C927	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C928	NEE21CM-106RY	E CAPACITOR	10μF,16V
C929	NCFA1CZ-473AW	CAPACITOR	0.047μF,16V
C930	NCBA1HK-332AW	CAPACITOR	0.0033μF,50V
C931	NCBA1HK-332AW	CAPACITOR	0.0033μF,50V
C932	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C933	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C934	NCBA1HK-332AW	CAPACITOR	0.0033μF,50V
C935	NCBA1HK-332AW	CAPACITOR	0.0033μF,50V
C936	NCFA1CZ-473AW	CAPACITOR	0.047μF,16V
C937	NCFA1CZ-473AW	CAPACITOR	0.047μF,16V
C938	NCBA1HK-332AW	CAPACITOR	0.0033μF,50V
C939	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C940	NCBA1CK-103AW	CAPACITOR	0.01μF,16V
C943	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C944	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C945	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C946	QCFA1CZ-105	CAPACITOR	1μF,16V
C947	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C948	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C949	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C952	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C953	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C954	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C955	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C956	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C957	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C958	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C963	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C964	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C965	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C966	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C968	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C969	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C970	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C971	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C974	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C975	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C976	NEE20JM-107RZ	E CAPACITOR	100μF,6.3V
C977	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C980	NCB31EK-103A	CAPACITOR	0.01μF,25V
C981	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C982	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C983	NCT07CH-470A	CAPACITOR	47pF,50V
C987	NCB31EK-103A	CAPACITOR	0.01μF,25V
C988	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C990	NCB31EK-103A	CAPACITOR	0.01μF,25V
C991	NCBA1HK-102AW	CAPACITOR	0.001μF,50V
C993	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C994	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C995	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C996	NCFA0JZ-104AW	CAPACITOR	0.1μF,6.3V
C997	NEE20JM-107RZ	E CAPACITOR	100μF,6.3V
C998	YU41970-J106AW	E CAPACITOR	10μF,6.3V
L1	PELN1087-102Y	FERRATE BEADS	
L2	NQL013K-R22X	COIL	

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
L3	NQL013K-R22X	COIL	
L4	NQL013K-47NX	COIL	
L5	PELN1224-Y	FERRATE BEADS	
L6	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
L121	PELN1127-100MP	COIL	10μH
L122	PELN1200-100MP	COIL	10μH
L123	PELN1200-100MP	COIL	10μH
L124	PELN0325-100KZ	COIL	10μH
L125	YU41135-100KY	COIL	10μH
L126	YU41135-100KY	COIL	10μH
L301	YU41135-100KY	COIL	10μH
L302	YU41135-100KY	COIL	10μH
L401	PELN1087-102Y	FERRATE BEADS	
L402	PELN1087-102Y	FERRATE BEADS	
L403	PELN1087-102Y	FERRATE BEADS	
L404	PELN1087-102Y	FERRATE BEADS	
L405	PELN1087-102Y	FERRATE BEADS	
L406	PELN1087-102Y	FERRATE BEADS	
L407	PELN1087-102Y	FERRATE BEADS	
L408	PELN1087-102Y	FERRATE BEADS	
L409	PELN1087-102Y	FERRATE BEADS	
L501	YU41135-470	COIL	47μH
L502	YU41135-470	COIL	47μH
L503	YU41135-470	COIL	47μH
L504	YU41135-470	COIL	47μH
L505	YU41134-220J	COIL	22μH
L701	PELN0704-100KY	COIL	10μH
L702	PELN0704-100KY	COIL	10μH
L703	PELN0704-100KY	COIL	10μH
L704	YU41135-220K	COIL	22μH
L705	PELN0704-100KY	COIL	10μH
L706	PELN0704-100KY	COIL	10μH
L707	PELN0704-100KY	COIL	10μH
L708	PELN0865-100KY	COIL	10μH
L801	YU41135-220K	COIL	22μH
L802	YU41135-220K	COIL	22μH
L803	YU41135-220K	COIL	22μH
L804	PELN0704-100KY	COIL	10μH
L805	YU41135-220K	COIL	22μH
L807	YU41607-Y	CHIP FERR.B	
L808	YU41607-Y	CHIP FERR.B	
L809	YU41135-220K	COIL	22μH
L810	YU41135-220K	COIL	22μH
L811	QRSA08J-470YN	RESISTOR	47Ω,1/10W
L813	YU41607-Y	CHIP FERR.B	
L814	YU41607-Y	CHIP FERR.B	
L815	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
L820	YU41607-Y	CHIP FERR.B	
L821	YU41607-Y	CHIP FERR.B	
L822	YU41607-Y	CHIP FERR.B	
L823	YU41607-Y	CHIP FERR.B	
L825	YU41607-Y	CHIP FERR.B	
L827	YU41607-Y	CHIP FERR.B	
L828	YU41135-220K	COIL	22μH
L831	PELN0704-100KY	COIL	10μH
L832	YU41135-220K	COIL	22μH
L833	YU41607-Y	CHIP FERR.B	
L834	YU41135-220K	COIL	22μH
L835	YU41607-Y	CHIP FERR.B	
L836	YU41607-Y	CHIP FERR.B	
L838	PELN0704-100KY	COIL	10μH
L840	PELN0704-100KY	COIL	10μH

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	L842	YU41607-Y	CHIP FERR.B
	L843	PELN1087-102Y	FERRATE BEADS
	X801	PEVB0597-P	CXO
	X802	PEVB0673-P	CRYSTAL RESONATOR
	X803	PEVB0674-P	CRYSTAL RESONATOR
	X804	PEVB0582-Z	RESONATOR
	S1	PESW0610-Z	TACT SWITCH
	S2	PESW0667-P	PUSH SWITCH
	RY101	PESW0686-06-R	RELAY
	T701	PELN1190-R	SW TRANS
	J1	YQ44188	MULTI PIN
	J2	YQ44152-1-1	JACK UNIT
	J3	ML-Y00773C	WIRE
	HD1	YS30796A-2	BATT. HOLDER ASSY
	SD1	YU42070	SHIELD PLATE
	FL501	PELN1164-Z	LOW PASS FILTER
	J101	QWE382-04AZAZ	WIRE
	CN1	PEMC1105-018-R	CONNECTOR
	CN2	PEMC1141-030-X	CONNECTOR
	CN3	PEMC1141-030-X	CONNECTOR
	CN4	PEMC1141-030-X	CONNECTOR
	CN5	PEMC1179-050-R	CONNECTOR
	CN6	PEMC1125-005-R	CONNECTOR
	CN7	PEMC1105-011-R	CONNECTOR
	CN9	PEMC1105-006-P	CONNECTOR
	CN401	PEMC1125-003-P	CONNECTOR
	CN701	PEMC1141-026-X	CONNECTOR
	CN801	PEMC1105-015-R	CONNECTOR
	CN802	PEMC1105-022-R	CONNECTOR
⚠	CP101	ICP-S1.0-X	CIRCUIT PROTECTOR
⚠	CP102	ICP-S2.3-X	CIRCUIT PROTECTOR
⚠	CP103	ICP-S2.3-X	CIRCUIT PROTECTOR
⚠	CP104	ICP-S0.5-X	CIRCUIT PROTECTOR
⚠	CP105	ICP-S0.7-X	CIRCUIT PROTECTOR

* * *

CCD BOARD ASSMEBLY <03>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW1	YB20744A1-02	CCD BOARD ASSY	
	Q1	2SK198(PQ)	FE TRANSISTOR	
	Q2	2SC3936(BC)	TRANSISTOR	
	R1	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R2	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
	R3	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
	C1	QCYA1EK-473	CAPACITOR	0.047μF,25V
	C2	QCYA1EK-473	CAPACITOR	0.047μF,25V
	C3	NEE41DM-105RY	E CAPACITOR	1μF,20V
	C4	QCYA1EK-473	CAPACITOR	0.047μF,25V
	L1	YU41607-Y	CHIP FERR.B	

* * *

VF BOARD ASSEMBLY <04>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PW2	YB20744A2-02	VF BOARD ASSY
	BL1	PEDP0200	LAMP
	CN1	PEMC0935-016-R	CONNECTOR

SECTION 6
TECHNICAL INFORMATION

6.1 EMERGENCY DISPLAY

Whenever some abnormal signal is supplied to mechacon CPU, an error number (E 04, for example) displayed in the electronic view finder.

E. VF DISPLAY	Symptom	Mode when observed	Resulting mode
E07	Short circuit of capstan MDA	Power ON	Power OFF
E06	CAPSTAN FG input absent	EDIT	STOP
E04	DRUM FF input absent	DRUM rotation	STOP
E03	SUPPLY REEL FG input absent	REC, PLAY, SEARCH, FF	STOP
E02	Mode control motor rotates for more than 10 sec without shift to next mode.	UNLOADING	Mode continues
E01	Mode control motor rotates for more than 10 sec without shift to next mode.	LOADING	Mode continues
E00	Overtime the programing transaction	REC, PLAY	EJECT

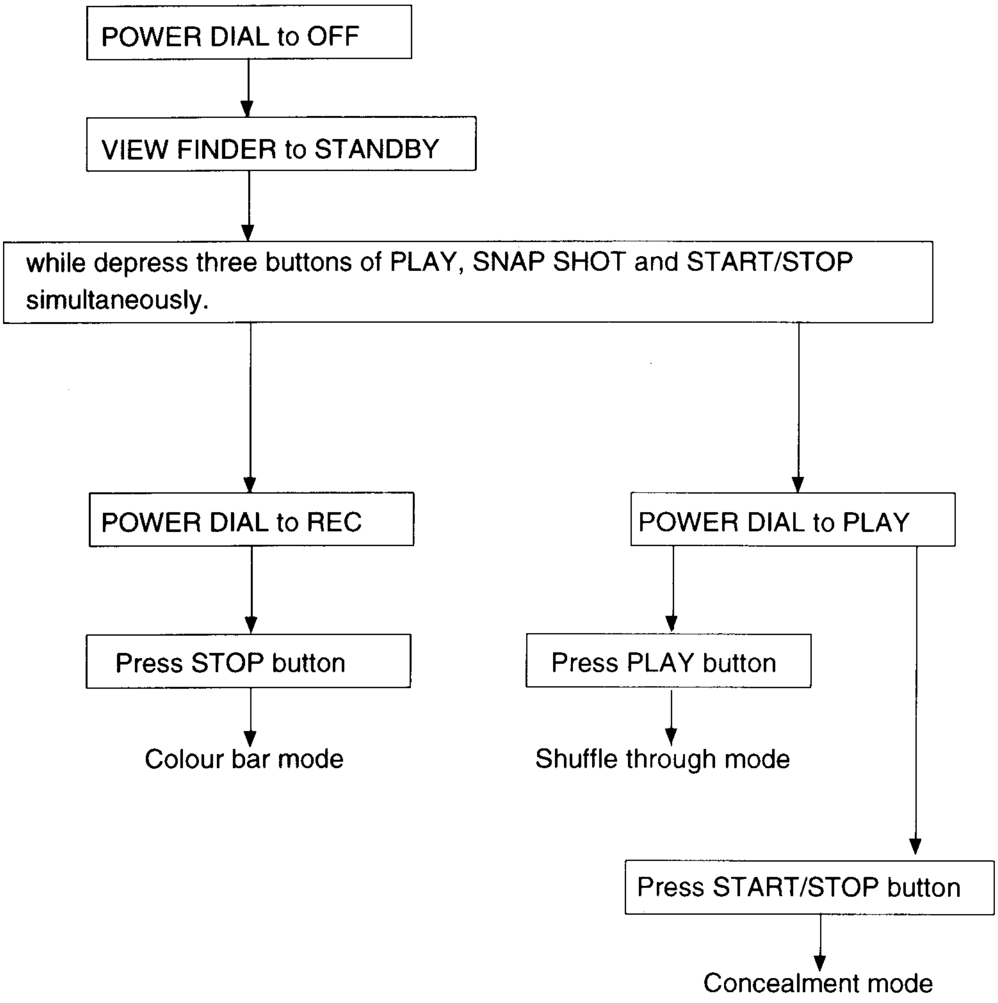
Emergency mode : Indication for 5 minutes, then power OFF
Port states : Same as Stop mode
Effective key : POWER
Shifted mode : Power OFF

6.2 TEST MODE

There are three TEST mode this model.

① Colour bar mode
② Shaffle through mode
③ Concealment mode

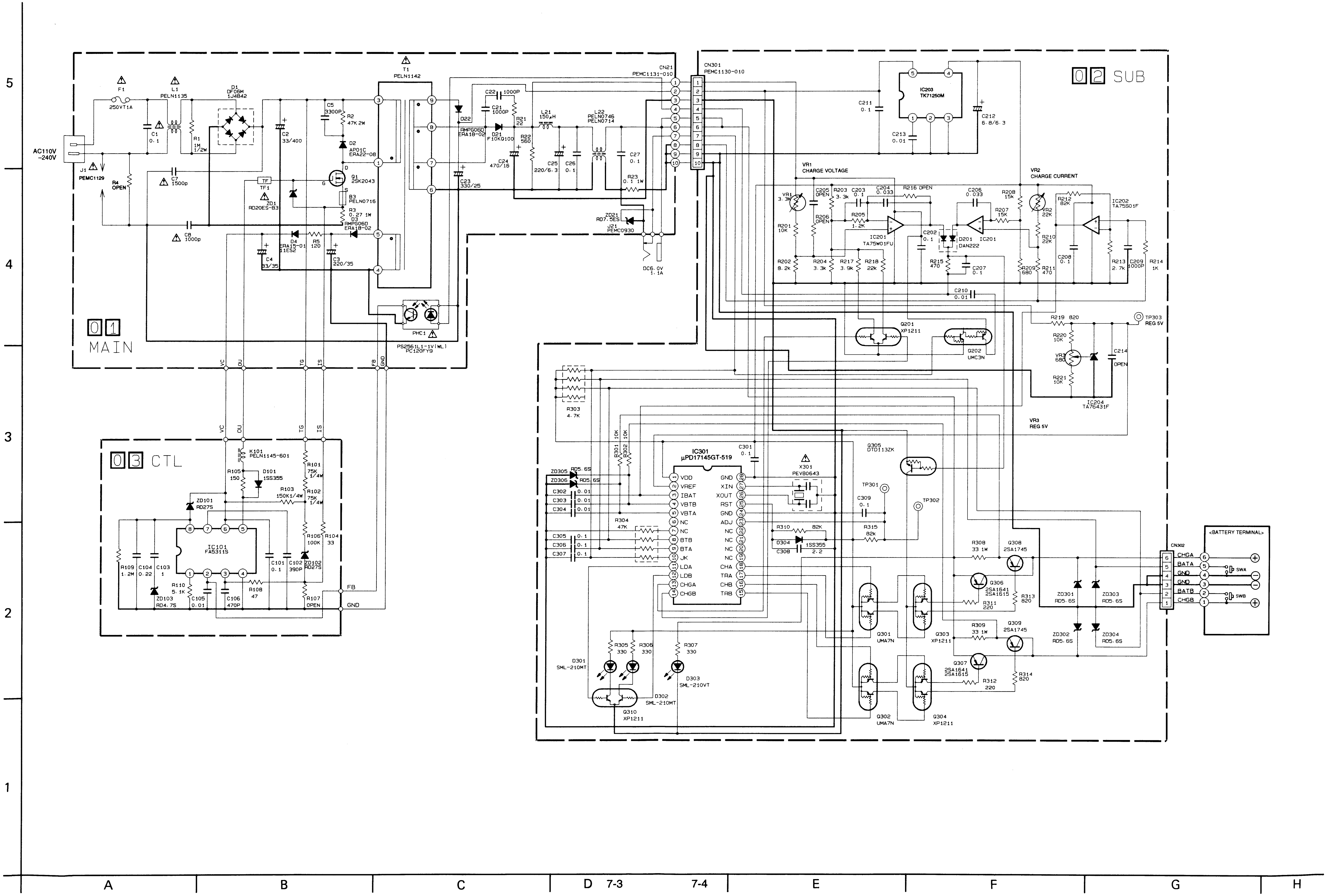
6.2.1 How to set TEST mode


POWER DIAL to OFF
VIEW FINDER to STANDBY
while depress three buttons of PLAY, SNAP SHOT and START/STOP simultaneously.
POWER DIAL to REC
POWER DIAL to PLAY
Press STOP button
Press PLAY button
Colour bar mode
Shuffle through mode
Press START/STOP button
Concealment mode

6.2.2 How to cancel TEST mode

Set the POWER DIAL to OFF position, and the TEST mode is cancelled.

7.2 MAIN, SUB AND CTL SCHEMATIC DIAGRAMS


01 MAIN
02 SUB
03 CTL
AC110V -240V
J1 PEMC1129
F1 250VT1A
L1 PELN1135
D1 DF06M 1J4B42
C1 0.1
R1 1M 1/2W
R4 OPEN
C7 1500p
C8 1000p
C5 3300P
R2 47K 2W
C2 33/400
D2 AP01C ERA22-08
Q1 2SK2043
TF1
ZD1 RD20ES-B3
B3 PELN0716
R3 0.27 1W
D3 RMPG06D ERA18-02
D4 ERA15-01 11ES2
R5 120
C4 33/35
C3 220/35
T1 PELN1142
D22 RMPG06D ERA18-02
C22 1000P
C21 1000P
R21 22
D21 F10KQ100
R22 560
C24 470/16
C23 330/25
L21 150μH
C25 220/6.3
C26 0.1
L22 PELN0746 PELN0714
C27 0.1
R23 0.1 1W
ZD21 RD7.5ES
J21 PEMC0930
DC6.0V 1.1A
PHC1
PS2561L1-1V(WL) PC120FY9
CN21 PEMC1131-010
CN301 PEMC1130-010
VC
OU
TG
IS
FB
GND
IC203 TK71250M
C211 0.1
C213 0.01
C212 6.8/6.3
VR1 CHARGE VOLTAGE
VR2 CHARGE CURRENT
VR1 3.3K
C205 OPEN
R203 3.3k
C203 0.1
C204 0.033
R216 OPEN
C206 0.033
R208 15k
R212 82K
IC202 TA75S01F
R201 10K
R206 OPEN
R205 1.2K
IC201 TA75W01FU
C202 0.1
D201 DAN222
IC201
R207 15K
VR2 22K
R210 22K
C208 0.1
R202 8.2k
R204 3.3k
R217 3.9k
R218 22k
R215 470
C207 0.1
R209 680
R211 470
R213 2.7k
C209 1000P
R214 1K
C210 0.01
Q201 XP1211
Q202 UMC3N
R219 820
TP303 REG 5V
R220 10K
VR3 680
C214 OPEN
R221 10K
IC204 TA76431F
VR3 REG 5V
R303 4.7K
R301 10K
R302 10K
IC301 μPD17145GT-519
C301 0.1
X301 PEV80643
ZD305 RD5.6S
ZD306 RD5.6S
C302 0.01
C303 0.01
C304 0.01
R304 47K
C305 0.1
C306 0.1
C307 0.1
VDD
VREF
IBAT
VBTB
VBTA
NC
NC
BTB
BTA
JK
LDA
LDB
CHGA
CHGB
GND
XIN
XOUT
RST
GND
ADJ
NC
NC
NC
NC
CHA
TRA
CHB
TRB
TP301
C309 0.1
TP302
R310 82K
R315 82k
D304 1SS355
C308 2.2
Q305 DTD113ZK
R308 33 1W
Q308 2SA1745
Q306 2SA1641 2SA1615
R311 220
R313 820
R309 33 1W
Q309 2SA1745
Q307 2SA1641 2SA1615
R312 220
R314 820
Q301 UMA7N
Q303 XP1211
Q302 UMA7N
Q304 XP1211
R305 330
R306 330
R307 330
D301 SML-210MT
D302 SML-210MT
D303 SML-210VT
Q310 XP1211
ZD301 RD5.6S
ZD303 RD5.6S
ZD302 RD5.6S
ZD304 RD5.6S
CN302
CHGA
BATA
GND
GND
BATB
CHGB
<BATTERY TERMINAL>
SWA
SWB
K101 PELN1145-601
R105 150
D101 1SS355
R101 75K 1/4W
R103 150K1/4W
R102 75K 1/4W
ZD101 RD27S
IC101 FA5311S
R106 100K
R104 33
R109 1.2M
C104 0.22
C103 1
C101 0.1
C102 390P
ZD102 RD27S
R110 5.1K
ZD103 RD4.7S
C105 0.01
C106 470P
R108 47
R107 OPEN
FB
GND
A
B
C
D
E
F
G
H
1
2
3
4
5

SECTION 7
AC POWER ADAPTER

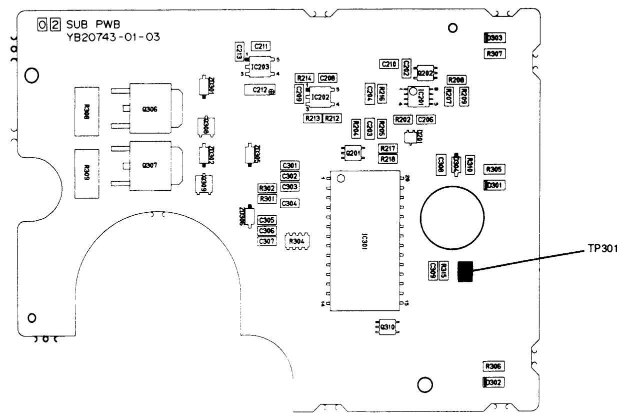
7.1 ELECTRTICAL ADJUSTMENT

Note:

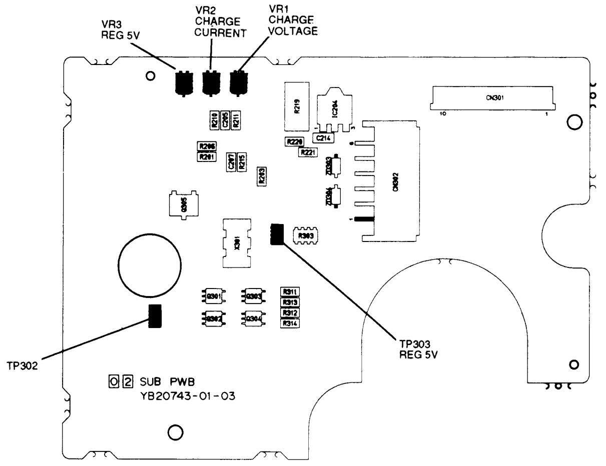
- *Before proceeding to adjustment, make sure that the object of the adjustment is maladjusted.*
  Unless otherwise specified, test points and adjusting parts are located on the SUB <02> board.

7.1.1 Location of test points and controls on SUB board

FOIL SIDE (B)


02 SUB PWB
YB20743-01-03
TP301

COMPONENT SIDE (A)


VR3
REG 5V
VR2
CHARGE
CURRENT
VR1
CHARGE
VOLTAGE
TP302
TP303
REG 5V
02 SUB PWB
YB20743-01-03

7.1.2 SUB circuit

Notes:

- *For adjusting this system, set it to the [Adjustment] mode in advance.*

Setting method:

- *Short the wire from TP301 or TP302 to GND, then connect AC outlet.*
  During the [Adjustment] mode, all LED will be turned on.

1. REG 5 V adjustment

Signal	• –
Mode	• Adjustment mode
Measuring instrument	• Digital voltmeter
Measurement point	• TP303 (REG. 5V)
Adjusting part	• VR3 (REG 5V)
Specified value	• 5.00 ± 0.1V DC

Refer to Fig. 7-1-1

(1) Connect a digital voltmeter to TP303.
(2) Adjust VR3 for 5.0 ± 0.1 V DC.

2. CHARGE VOLTAGE

Signal	• –
Mode	• Adjustment mode
Measuring instrument	• Digital voltmeter
Measurement point	• ⊕ terminal or CN302-1, -6
Adjusting part	• VR1 (CHARGE VOLTAGE)
Specified value	• 4.12 ± 0.02V DC

Refer to Fig. 7-1-1

(1) Connect a digital voltmeter to ⊕ terminal or CN302-1, -6.
(2) Adjust VR1 for 4.12 ± 0.02 V DC.

3. CHARGE CURRENT

Signal	• –
Mode	• Adjustment mode
Measuring instrument	• Digital voltmeter
Measurement point	• ⊕ terminal or CN302-1, -6
Adjusting part	• VR2 (CHARGE CURRENT)
Specified value	• $1.3 \pm^{0.01}_{0.03}$ A

Refer to Fig. 7-1-2

(1) Set 3.6V DC in the terminal, and adjust VR2 for $1.3^{+0.01}_{-0.03}$ A.

7.1.3 Circuit connector section

1. REG 5 V, CHARGE VOLTAGE

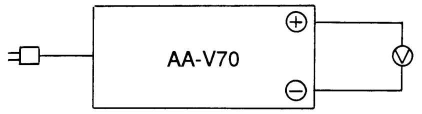


Fig. 7-1-1

2. CHARGE CURRENT

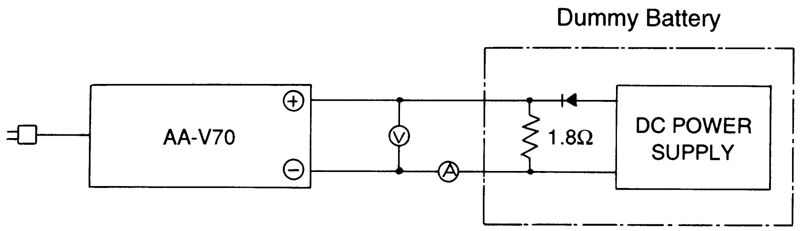
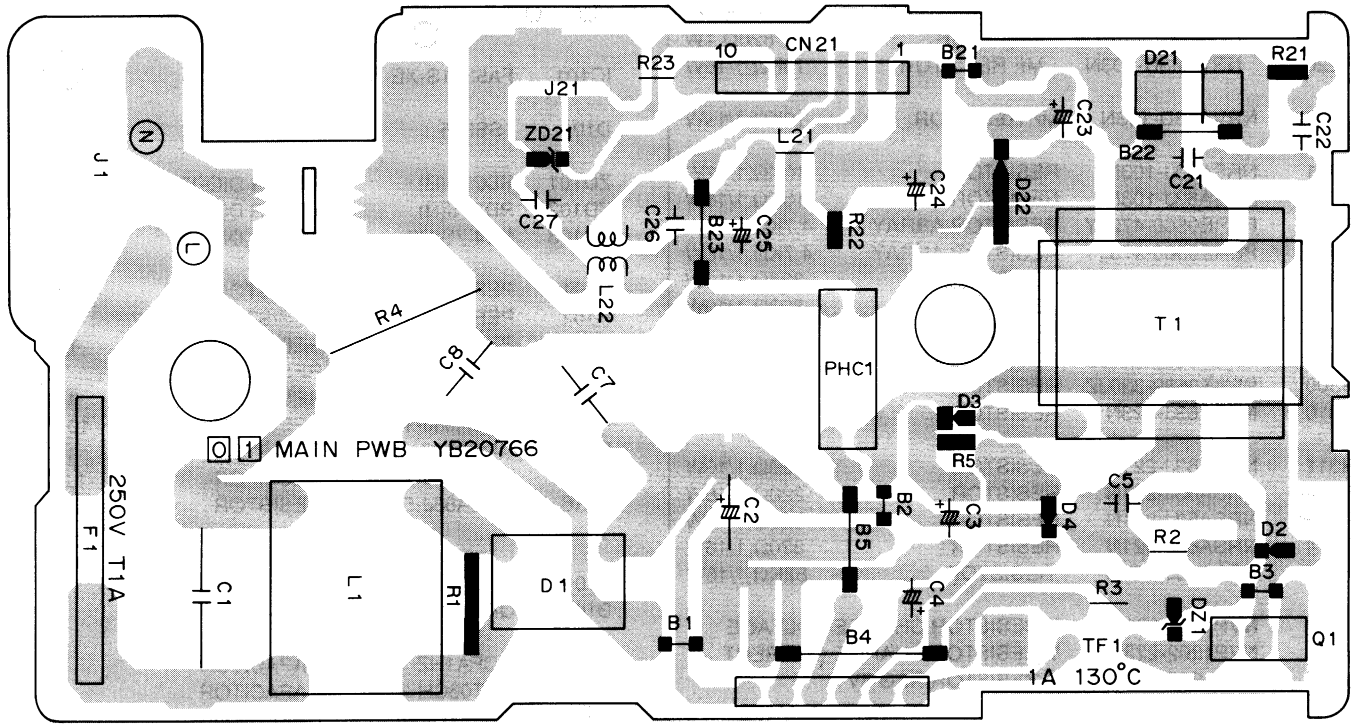
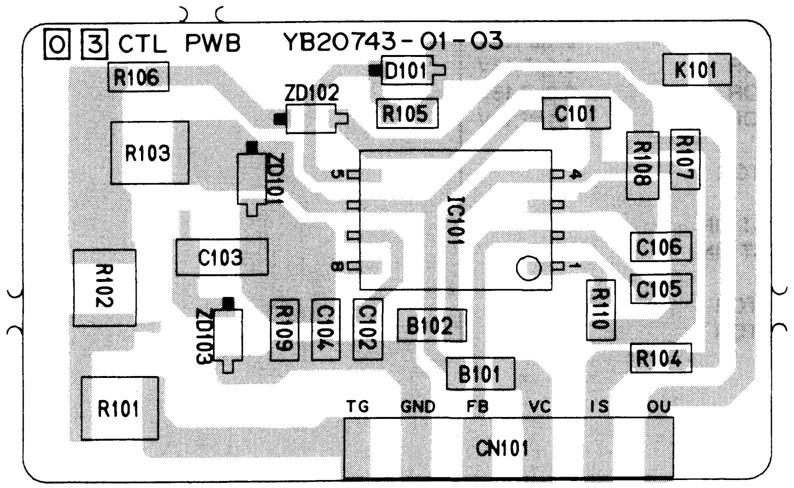

Dummy Battery
AA-V70
⊕
⊖
V
A
1.8Ω
DC POWER
SUPPLY

Fig. 7-1-2

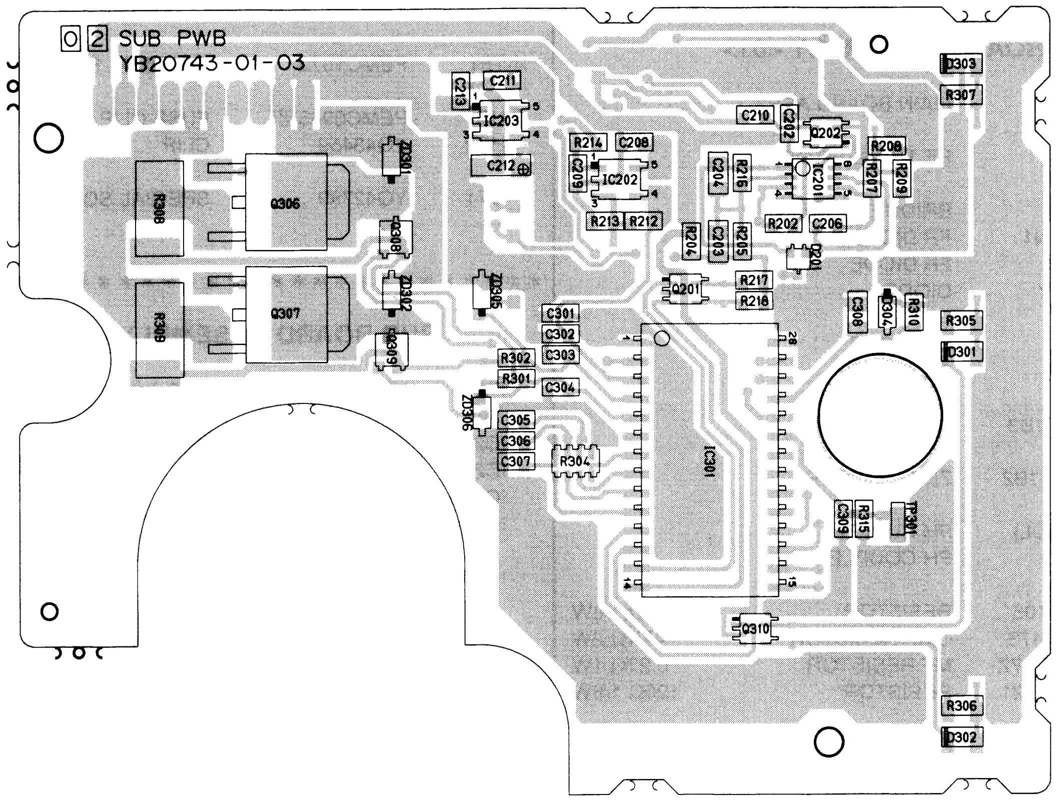
7.3 MAIN, SUB AND CTL CIRCUIT BOARDS



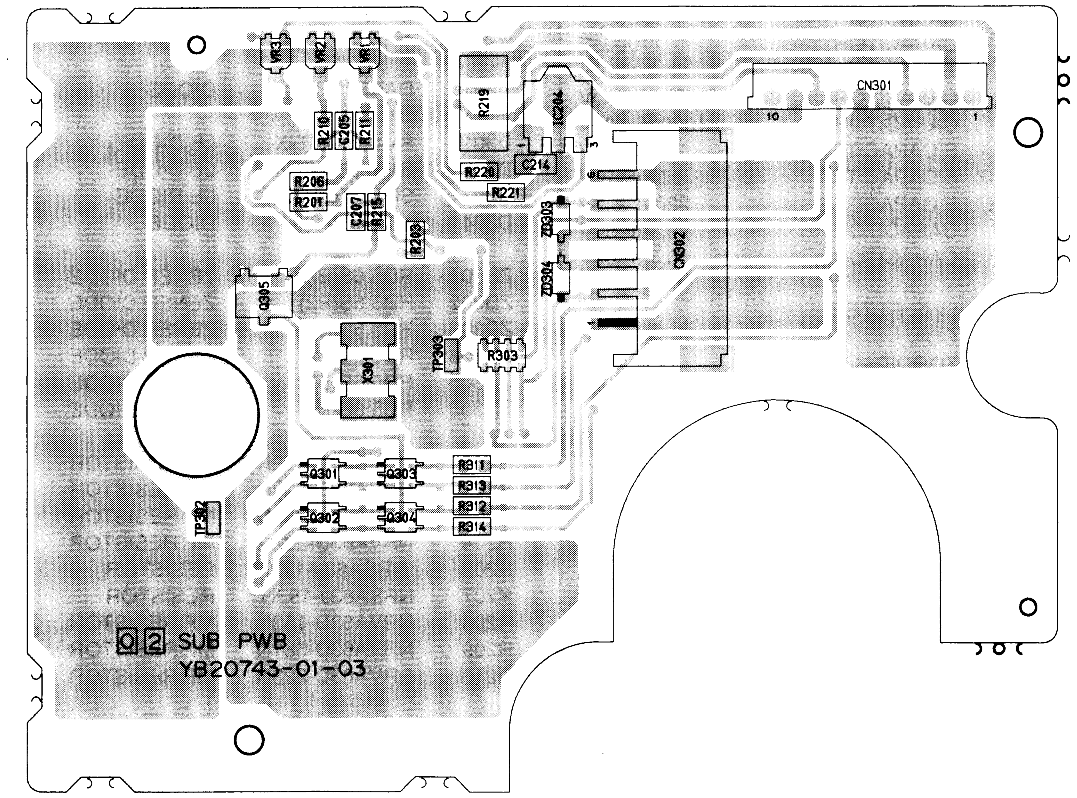
0 1 MAIN PWB YB20766
J1
N
L
R4
C8
C7
J21
ZD21
C27
C26
B23
C25
L22
L21
R23
10
CN21
1
B21
D21
R21
C22
C23
C24
D22
R22
B22
C21
T1
PHC1
D3
R5
C5
D4
C3
B2
B5
C2
R2
D2
B3
R3
DZ1
Q1
TF1
1A 130°C
B4
C4
B1
D1
R1
L1
C1
F1
250V T1A



0 3 CTL PWB YB20743-01-03
R106
D101
K101
ZD102
R105
C101
R103
ZD101
R108
R107
5
4
IC101
8
1
C103
R102
C106
C105
R110
ZD103
R109
C104
C102
B102
B101
R104
R101
TG
GND
FB
VC
IS
OU
CN101



0 2 SUB PWB
YB20743-01-03
R308
Q306
R309
Q307
ZD301
C213
C211
IC203
C212
R214
C208
C209
IC202
R213
R212
C210
C202
Q202
IC201
R208
R207
R209
D303
R307
C204
R216
C203
R205
R204
R202
C206
D201
Q201
R217
R218
ZD302
ZD305
C301
C302
C303
R302
R301
C304
ZD306
C305
C306
C307
R304
IC301
C308
D304
R310
R305
D301
C309
R315
TP301
Q310
R306
D302



VR3
VR2
VR1
R219
IC204
CN301
10
1
R210
C205
R211
R206
R201
C207
R215
R203
R220
C214
R221
ZD303
ZD304
CN302
Q305
X301
TP303
R303
Q301
Q303
Q302
Q304
R311
R313
R312
R314
TP302
0 2 SUB PWB
YB20743-01-03

7.4 PARTS LIST

7.4.1 ELECTRICAL PARTS LIST

* *

MAIN BOARD ASSEMBLY <01>

#⚠REF NO.	PART NO.	PART NAME, DESCRIPTION	
PW1	YB20766A	MAIN BOARD ASSY	
Q1	2SK2043	FE TRANSISTOR	
D1	DF06M	BRIDGE DIODE	
D2	AP01C-LFN1	FR DIODE	
D3	RMPG06D	FR DIODE	
D4	ERA15-01Y	DIODE	
D21	F10KQ100	SB DIODE	
D22	RMPG06D	FR DIODE	
ZD1	RD20ES-T1B3	ZENER DIODE	
ZD21	RD7.5ES-T1B2	ZENER DIODE	
⚠PC1	PS2501-1(DL)	PH CUPLER	
⚠ OR	PC817BC	PH COUPLER	
R1	QRD181J-105	RESISTOR	1MΩ,1/8W
R2	QRG02DJ-473	OMF RESISTOR	47KΩ,2W
R3	QRX014J-R27Z	MF RESISTOR	0.27Ω,1W
R5	QRD161J0-121	RESISTOR	120Ω,1/6W
R21	QRD14AJ-220Y	RESISTOR	22Ω,1/4W
R22	QRD14AJ-561Y	RESISTOR	560Ω,1/4W
R23	QRX014G-R10Z	MF RESISTOR	0.1Ω,1W
⚠C1	QFZ9051-104	MM CAPACITOR	0.1µF,250V
C2	PECA0921-336MF	E CAPACITOR	33µF,400V
C3	QEMN1VM-227	E CAPASITOR	220µF,35V
C4	QEH61VM-336	E CAPASITOR	33µF,35V
C5	PECA0993-332Z	CAPACITOR	3300pF,500V
⚠C7	QCZ9071-152	CAPACITOR	1500pF
⚠C8	QCZ9071-102	CAPACITOR	1000pF
C21	PECA0994-102Z	CAPACITOR	1000pF,500V
C22	PECA0994-102Z	CAPACITOR	1000pF,500V
C23	QEMN1EM-337	E CAPACITOR	330µF,25V
C24	PECA0996-477MZ	E CAPACITOR	470µF,16V
C25	QETN0JM-227ZE	E CAPACITOR	220µF,6.3V
C26	QCFB1HZ-104	CAPACITOR	0.1µF,50V
C27	QCFB1HZ-104	CAPACITOR	0.1µF,50V
⚠L1	PELN1135	LINE FILTER	
L21	PELN0696-150KZ	COIL	
L22	PELN0746	TOROIDAL COIL	
B3	PELN0716-Z	FERRATE BEADS	
⚠J1	PEMC1208	AC INLET	
J21	PEMC0930	DC JACK	
⚠ T1	PELN1142	SW TRANS	
CN21	PEMC1131-010	PIN HEADER	
⚠HS1	YQ44315-1-1	HEAT SINK(1)	
⚠HS2	YQ44316-1-3	HEAT SINK(2)	
⚠TF1	PEMC1072	THERMAL FUSE	
⚠HD1	PEMC0965-Z	FUSE CLIP,X2	
HD2	YQ43459	CLIP	
OT1	YQ42789	SPECIAL SCREW,X2	

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SUB BOARD ASSEMBLY <02>

#⚠REF NO.	PART NO.	PART NAME, DESCRIPTION	
PW2	YB20743A1-03	SUB BOARD ASSY	
IC201	TA75W01FU	IC	
IC202	TA75S01F	IC	
IC203	TK71250M	IC	
IC204	TA76431F	IC	
IC301	UPD17145GT-519X	IC	
Q201	XP1211	TRANSISTOR	
Q202	UMC3N	TRANSISTOR	
Q301	UMA7N	TRANSISTOR	
Q302	UMA7N	TRANSISTOR	
Q303	XP1211	TRANSISTOR	
Q304	XP1211	TRANSISTOR	
Q305	DTD113ZK	TRANSISTOR	
Q306	2SA1641(ST)	TRANSISTOR	
OR	2SA1615(L)	TRANSISTOR	
Q307	2SA1641(ST)	TRANSISTOR	
OR	2SA1615(L)	TRANSISTOR	
Q308	2SA1745(67)	TRANSISTOR	
Q309	2SA1745(67)	TRANSISTOR	
Q310	XP1211	TRANSISTOR	
D201	DAN222	DIODE	
D301	SML-210MT-X	LE DIODE	
D302	SML-210MT-X	LE DIODE	
D303	SML-210VT-X	LE DIODE	
D304	1SS355	DIODE	
ZD301	RD5.6S(B2)	ZENER DIODE	
ZD302	RD5.6S(B2)	ZENER DIODE	
ZD303	RD5.6S(B2)	ZENER DIODE	
ZD304	RD5.6S(B2)	ZENER DIODE	
ZD305	RD5.6S(B2)	ZENER DIODE	
ZD306	RD5.6S(B2)	ZENER DIODE	
R201	NRVA63D-103N	MF RESISTOR	10KΩ,1/16W
R202	NRVA63D-822N	MF RESISTOR	8.2KΩ,1/16W
R203	NRVA63D-332N	MF RESISTOR	3.3KΩ,1/16W
R204	NRVA63D-332N	MF RESISTOR	3.3KΩ,1/16W
R205	NRSA63J-122N	RESISTOR	1.2KΩ,1/16W
R207	NRSA63J-153N	RESISTOR	15KΩ,1/16W
R208	NRVA63D-153N	MF RESISTOR	15KΩ,1/16W
R209	NRVA63D-681N	MF RESISTOR	680Ω,1/16W
R210	NRVA63D-223N	MF RESISTOR	22KΩ,1/16W
R211	NRVA63D-471N	RESISTOR	470Ω,1/16W
R212	NRVA63D-823N	MF RESISTOR	82KΩ,1/16W
R213	NRVA63D-272N	MF RESISTOR	2.7KΩ,1/16W
R214	NRVA63D-102N	MF RESISTOR	1KΩ,1/16W
R215	NRSA63J-471N	RESISTOR	470Ω,1/16W
R217	NRVA63D-392N	MF RESISTOR	3.9KΩ,1/16W
R218	NRVA63D-223N	MF RESISTOR	22KΩ,1/16W
R219	PERE0589-821JZ	RESISTOR	820Ω,1W
R220	NRVA63D-103N	MF RESISTOR	10KΩ,1/16W
R221	NRVA63D-103N	MF RESISTOR	10KΩ,1/16W
R301	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R302	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R303	PERE0560-472JY	RESISTOR ARRAY	4.7KΩ,1/16W
R304	PERE0560-473JY	RESISTOR ARRAY	4.7KΩ,1/16W
R305	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R306	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R307	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R308	PERE0589-330JZ	RESISTOR	33Ω,1W
R309	PERE0589-330JZ	RESISTOR	33Ω,1W
R310	NRSA63J-823N	RESISTOR	82KΩ,1/16W
R311	NRSA63J-221N	RESISTOR	220Ω,1/16W
R312	NRSA63J-221N	RESISTOR	220Ω,1/16W
R313	NRSA63J-821N	RESISTOR	820Ω,1/16W
R314	NRSA63J-821N	RESISTOR	820Ω,1/16W
R315	NRSA63J-823N	RESISTOR	82KΩ,1/16W
VR1	NVP1202-332N	V RESISTOR,CHARGE VOLTAGE	
VR2	NVP1202-223N	V RESISTOR,CHARGE CURRENT	
VR3	NVP1202-681N	V RESISTOR,REG 5V	
C202	NCF31CZ-104A	CAPACITOR	0.1µF,16V
C203	QCYA1EK-104	CAPACITOR	0.1µF,25V
C204	QCYA1EK-333	CAPACITOR	0.033µF,25V
C206	NCB31CK-333A	CAPACITOR	0.033µF,16V
C207	NCF31CZ-104A	CAPACITOR	0.1µF,16V
C208	NCF31CZ-104A	CAPACITOR	0.1µF,16V
C209	NCB31HK-102A	CAPACITOR	1000pF,50V
C210	NCB31EK-103A	CAPACITOR	0.01µF,25V
C211	NCF31EZ-104A	CAPACITOR	0.1µF,25V
C212	YU41415-A685AW	CAPACITOR	6.8µF,6.3V
C213	NCB31EK-103A	CAPACITOR	0.01µF,25V
C301	NCF31CZ-104A	CAPACITOR	0.1µF,16V
C302	NCF31HZ-103A	CAPACITOR	0.01µF,50V
C303	NCF31HZ-103A	CAPACITOR	0.01µF,50V
C304	NCF31HZ-103A	CAPACITOR	0.01µF,50V
C305	NCF31CZ-104A	CAPACITOR	0.1µF,16V
C306	NCF31CZ-104A	CAPACITOR	0.1µF,16V
C307	NCF31CZ-104A	CAPACITOR	0.1µF,16V
C308	QCFA1CZ-225	CAPACITOR	2.2µF,16V
C309	NCF31CZ-104A	CAPACITOR	0.1µF,16V
⚠X301	PEVB0643-Z	RESONATOR	
TP302	PEMC1034-Y	CHIP TEST PIN	
TP303	PEMC1034-Y	CHIP TEST PIN	
CN301	PEMC1130-010	CONNECTOR	
CN302	PEMC1043-106R	CONNECTOR	

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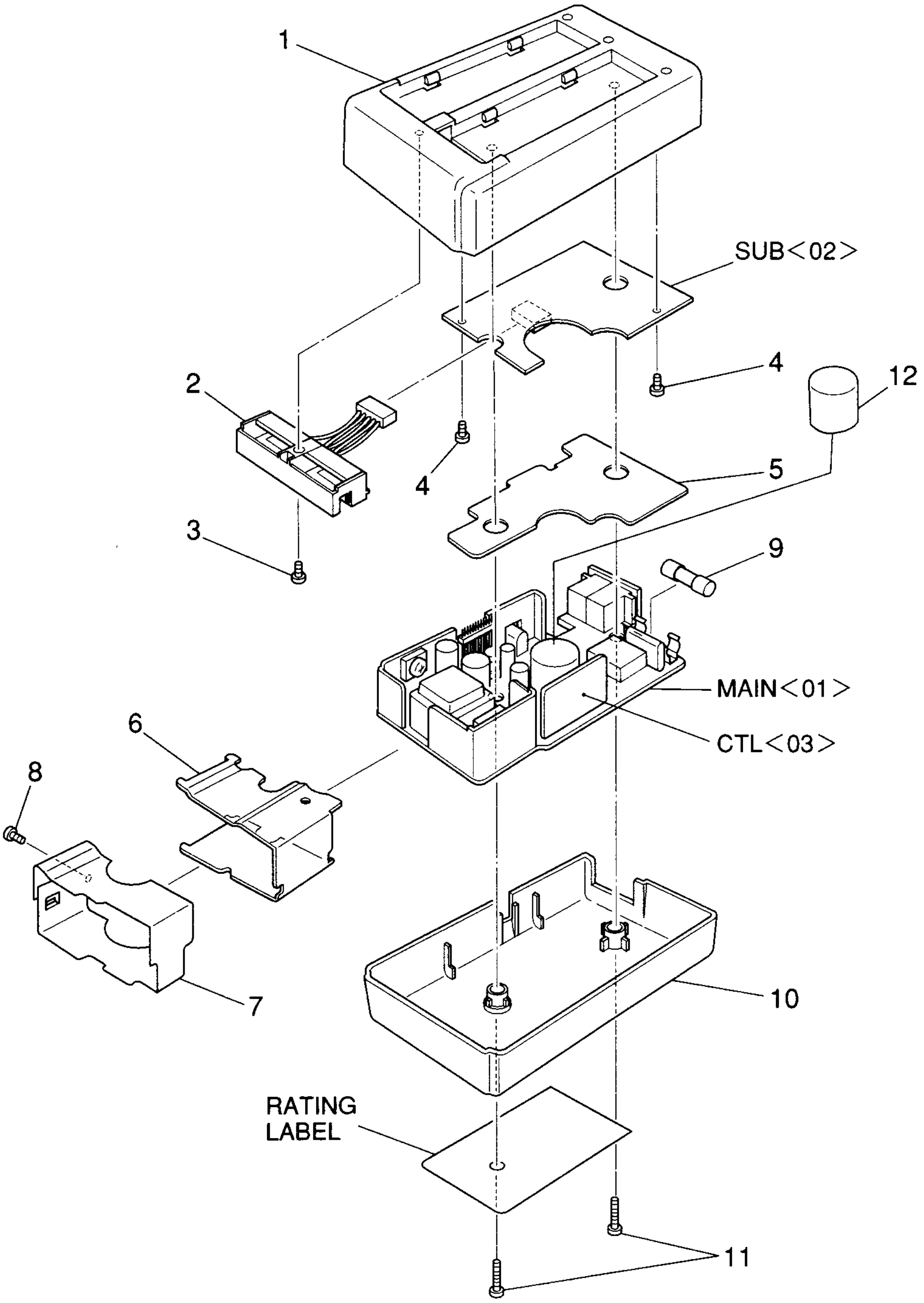
CTL BOARD ASSEMBLY <03>

#⚠ REF NO.	PART NO.	PART NAME, DESCRIPTION	
PW3	YB20743B2-03	CTL BOARD ASSY	
IC101	FA5311S-XE	IC	
D101	1SS355	DIODE	
ZD101	RD27S(B)	ZENER DIODE	
ZD102	RD27S(B)	ZENER DIODE	
ZD103	RD4.7S(B2)	ZENER DIODE	
R101	PERE0588-753JY	RESISTOR	75KΩ,1/4W
R102	PERE0588-753JY	RESISTOR	75KΩ,1/4W
R103	PERE0588-154JY	RESISTOR	150KΩ,1/8W
R104	NRSA63J-330N	RESISTOR	33Ω,1/16W
R105	NRSA63J-151N	RESISTOR	150Ω,1/16W
R106	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R108	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R109	NRSA63J-125N	RESISTOR	1.2MΩ,1/16W
R110	NRSA63J-512N	RESISTOR	5.1KΩ,1/16W
B101	QRSA08J-0R0Y	RESISTOR	
B102	QRSA08J-0R0Y	RESISTOR	
C101	QCFA1HZ-104	CAPACITOR	0.1µF,50V
C102	NCT06CH-391A	CAPACITOR	390pF,50V
C103	QCF81CZ-105	CAPACITOR	1µF,16V
C104	NCF31CZ-224	CAPACITOR	0.22µF,16V
C105	NCB31EK-103A	CAPACITOR	0.01µF,25V
C106	NCB31HK-471A	CAPACITOR	470pF,50V
K101	PELN1145-601Y	FERRATE BEADS	

7.4.2 CABINET ASSEMBLY <M2>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CTL<03>
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8
7
10
RATING LABEL
11

CABINET ASSSEMBLY <M2>

#⚠REF NO.	PART NO.	PART NAME, DESCRIPTION
* *		
	CABINET ASSEMBLY <M2>	
1	YQ32037D	UPPER CASE ASSY
2	PEMC1147	BATTERY CONTACT
⚠3	YQM30032-8	SPECIAL SCREW
⚠4	YQM30032-8	SPECIAL SCREW,X2
5	YQ44252-1-1	INSULATOR(3)
6	YQ32061-1-2	INSULATOR(2)
7	YQ32060	SHIELD COVER
8	SDSP2003Z	SCREW
⚠9	QMF51E2-1R0	FUSE/F1
or	QMFZ024-1R0-J1	FUSE/F1
⚠10	YQ20890	LOWER CASE
11	YQM30032-6-2	SPECIAL SCREW, X2
12	YQ44585	CAP SPACER